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**Perceived Justice and Barriers and Facilitators to the Attainment of Leadership  
Positions in Local and County Law Enforcement Organizations in the State of  
Florida**

**DISSERTATION**

**Presented in Partial Fulfillment of the Requirements for the Degree of  
Doctor of Philosophy**

**By**

**Delsa R. Bush**

**Lynn University**

**2009**



**Order Number:**\_\_\_\_\_

**Perceived Justice and Barriers and Facilitators to Career Advancement in Local and  
County Law Enforcement Organizations in the State of Florida**

**Bush, Delsa R., Ph.D.**

**Lynn University, 2009**

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## **ACKNOWLEDGEMENTS**

Reaching this milestone would not have been possible without the help of others, specifically, my dissertation committee. Dr. Joan Scialli, a motivational disciplinarian and the chair of my dissertation committee, has driven me to the point of exhaustion, but has always thrown out a revitalizing life line of knowledge to revive me. Dr. Carole Warshaw, the cheerleader who has been there the entire time, cheering me on with kind words or encouragement even when it was really bad. Dr. Karen Casey-Acevedo, the common sense advisor, and my colleague in this system of Criminal Justice.

I want to acknowledge Ms. Unwin Jones, my executive assistant. Thank you for being a friend and a confidant. I thank my “baby girl” Yasmine for allowing mom to take the time during your formative years to pursue this lifelong goal and my daughter Bristol for occasionally acting like a mother in my absence.

During this journey I have experienced several personal losses of those who were near and dear to me. One loss, that was more significant than the others, was that of my niece, Lois Shepard-Rumescard. In her short life span, Lois never had the opportunity to pursue her educational goals, but was always so proud of her “Auntie Dessa”. I dedicate this dissertation to you

I hope that this research will truly serve its stated purpose, to contribute to the knowledge and understanding of the glass ceiling effect, that invisible barrier, which hinders women and people of color from achieving their full potential in the field of law enforcement.

## **ABSTRACT**

Disparity in leadership positions within organizations continue to exist along racial and gender lines even as organizations become more diverse. The numerous studies investigating race, ethnicity, gender, and the attainment of leadership positions within organizations focus primarily on the glass-ceiling effect. Few have empirically addressed the issue of the glass-ceiling effect in law enforcement organizations. Previous research suggested that several factors might affect leadership positions, i.e., human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justices, barriers and facilitators to career advancement, institutional values, racism, and organizational culture. The glass ceiling effect, which encompasses a majority of these factors, may be the main hindrance to parity in leadership positions in law enforcement organizations. Theoretical models such as the glass ceiling effect, equity theory and perceived justice were examined and used as a guide to this study.

In this non-experimental, exploratory (comparative) and explanatory (correlational) study, an online research design was used to examine the glass ceiling effect in local and county law enforcement organizations in the State of Florida, from the perspective of human capital assets, demographic characteristics, organizational characteristics, distributive justice, procedural justice, perceived barriers to career advancement, perceived facilitators to career advancement, and the attainment of leadership positions.

Two research questions were answered and six hypotheses, with related sub-hypotheses, were tested. Approximately 2500 sworn law enforcement officers from 75

local and county law enforcement organizations in the State of Florida were invited to participate in the survey. There were 286 valid responses resulting in an 11.64% response rate which were used for data analyses procedures. Data analyses consisted of principle component analysis, internal consistency reliability, descriptive statistics, independent *t*-tests, Chi-Square analysis, ANOVA, with post hoc comparisons, Pearson *r* correlation, point-biserial correlation, and stepwise multiple regression.

Four scales, which included the *Procedural Justice Scale*, the *Distributive Justice Scale*, and *Perceived Barriers and Facilitators to Career Advancement Scale*, resulted in good estimates of reliability and construct validity was further established for each scale. Evidence of divergent validity was established for the one-item *Attainment of Leadership Positions* scale, which was created by the researcher. The *Perceived Barriers and Perceived Facilitators to Career Advancement* scales were modified after principle component analysis.

Though not significant, findings in this study indicated that females perceived more barriers to career advancement, specifically lack of culture fit, in the attainment of leadership positions than other racial groups and African Americans perceived greater barriers than Whites. As hypothesized, African American females, reported the lowest level of attainment of leadership positions. The demographic characteristic of age was the only variable significantly correlated with the attainment of leadership positions in local and county law enforcement organizations in the state of Florida not race or gender. Other findings indicate that the attainment of leadership positions can be explained by human capital assets specifically education, training, experience and tenure. Organizational characters were also correlated with the attainment of

leadership positions. Recommendations for future studies include replication using a national sample of law enforcement officers and a larger sample size. Future studies should also incorporate additional variables such as discrimination, career development, and geographic characteristics to increase the explanatory power of the model tested in this study which to explain the attainment of leadership positions.

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## **CHAPTER I: INTRODUCTION TO THE STUDY**

### **Introduction and Background to the Research Problem**

Despite years of research, issues of gender differences in leadership and the affect of gender on the attainment of leadership positions in organizations continue to be disputed (Butterfield & Grinnell, 1999). Disparity in the upward mobility of women and minorities and the affects of the glass ceiling persist (Bartol, Kromkowski, & Martin, 2003). In recent years, more research has been conducted about how gender might influence leadership positions. However, rarely are race and ethnicity considered and even less frequently is there a discussion of how race, ethnicity, and gender together might affect leadership positions (Waring, 2003).

The American workforce and all other institutions are becoming more diverse. Today, women, minorities, and immigrants are increasing within organizations (Acar, 2002). Decades ago, laws were passed to address the fact that African Americans were denied equal access to employment opportunities (Equal Opportunities International, 2007). However, 40 years later women and minorities, specifically African-American females, continue to occupy the lower rungs in leadership positions (Dawson, 2006).

Theories and models seek to explain how gender and race may affect attaining a leadership position within organizations and career advancement. They normally fall into four main categories: biological, sociological, structural-cultural, and organizational. According to Bartol et al. (2003), "Biological models are aimed at genetic, hormonal, and physical characteristics, but are not typically used to predict differences in leadership styles today" (p. 16). In the case of gender, authors of biological models propose that there are biological differences between men and women as a result of evolution and

genetic patterns (Birgit, 2006). Authors of socialization theories suggest the socialization of individuals affects their leadership potential. According to Bartol et al., "Socialization models argue that gender identity and differences are acquired through various developmental processes associated with life stages, such as schooling and work life" (p. 16). Bass (1990) studied an application of the socialization theory and proposed that Hispanic and Asian Americans come from collectivist societies, increasing the likelihood that they might lean toward participatory management, thus affecting their upward mobility.

Another component of the socialization theory that emerges is that of racism; specifically, aversive racism which is a "subtle but insidious form of prejudice that emerges when people can justify their negative feelings toward different races based on factors other than race" (Foster, Helb, Knight, & Mannix, 2003, p. 5). An example is well-intentioned people who often express their racial attitudes in indirect and rational ways, which precludes them from recognizing their racial biases.

Structural-cultural theories focus on the cultural background of people and the relationship between culture and the attainment of leadership positions within organizations. Authors of structural-cultural theories propose that social structures, arrangements, and other systems that define differences in status and power are the cause of differences in leadership (Bartol et al., 2003). These are the most common and the most accepted theories (Lueptow, 2001). Lastly, there are organizational theories which are intricately associated with structural-cultural theories where leadership is still one of the biggest issues in organization theory (Yukl, 2001).

The glass-ceiling effect embraces all four of the theories and models that seek to explain differences in the attainment of leadership positions (Weyer, 2006). The concept of the glass ceiling refers to “artificial barriers to the advancement of women and minorities” (Cotter, Hermsen, Ovadia, & Vanneman, 2001, p. 4). These barriers reflect “discrimination...a deep line of demarcation between those who prosper and those left behind (Cotter et al., p. 4).

Artificial barriers to career advancement within organizations are nebulous and difficult to prove, which is possibly why this complex phenomenon has been termed the glass ceiling (Kalish, 1992). Though not directly related to law enforcement, many studies have been conducted that attempt to measure the glass ceiling phenomena in the context of job equity, human capital assets, demographic characteristics, organizational characteristics, distributive justice, procedural justice, perceived barriers to career advancement, and perceived facilitators to career advancement (Lyness & Thompson, 2000; Moorman, 1991; Samad, 2006; Sorenson, Tai, & Sims, 2005).

Tai and Sims (2005) conducted a study which used the measures of distributive justice and perceived barriers and perceived facilitators to career advancement to uncover the perception of the glass ceiling in high technology corporations based on gender. The study revealed significant differences in positions held by males and females. However, the employees did not notice the apparent glass-ceiling effect.

Human capital theory suggests that those who obtain job relevant personal assets such as education, experience, competence, and training are more successful in their careers, jobs, and organizations than those who invest little or none of these assets (Becker, 1993; Sagas & George, 2004). Training and education are considered the most



important of the human capital assets. They provide the skills and knowledge necessary for success in organizations (Becker). Another significant human capital asset is job or occupational experience. Occupational experience supposedly enhances a person's competency in the organization or industry (Nordhaug, 1993). Human capital asset theories, however, have not adequately explained the situation of minorities and women of color in the workforce, specifically African-American and Latino women (Cocchiara, Bell, & Berry, 2006).

Organizational characteristics such as size and type of organization are said to influence the chances of attaining leadership positions within those organizations (Heinke, 2007). An organizational characteristic of particular importance to attaining leadership positions and career advancement is the promotional systems within organizations. Career success has been defined by upward mobility for as long as organizations have existed; the promotional process is the primary system by which an individual achieves upward mobility (Ferris, Buckley & Allen (1992).

Little research has focused on the characteristics of the promotional process itself; rather, the focus is simply on the outcome of the process. The promotional process is fraught with politics and parts of these politics include labor union influence, where union influence is also an organizational characteristic (Ferris et al., 1992). On the other hand, labor union influence has had a positive affect on the attainment of leadership positions for certain groups within organizations. For example, labor union influence or collective bargaining was instrumental in removing barriers and creating new career opportunities for women in the public sector in New York State (Figart, 1999).

Theories about the influence of demographic characteristics such as race, ethnicity, gender, and age play a significant role in explaining the glass ceiling phenomena and the subsequent barriers to the attainment of leadership positions and career advancement. The predominant demographic characteristic considered in theories, however, is that of gender (Alkadry & Tower, 2006; Eddleston, Baldrige, & Veiga, 2004; Merrell & James, 2001). While gender differences in leadership receive a lot of attention from researchers, ethnic and racial differences receive relatively little attention when ethnic and racial minorities face the same challenges to upward mobility, in organizations (Hooijberg & Ditaso, 1996).

The glass-ceiling effect is especially prevalent within law enforcement organizations. Women in law enforcement account for only 13% of police officers in the nation according to the latest survey on the status of women in law enforcement (National Center for Women & Policing, 2007). Discrimination in hiring, selection, and promotional practices keep the number of women in law enforcement artificially low. These 13% have found it extremely difficult to rise through the ranks and achieve leadership positions. Women law enforcement officers account for only 1% of the chief executive officers (i.e., chiefs and sheriffs) within the nation (Schulz, 2004).

Moss (2004) indicated that in the police stations of television programs, "Racism is practically extinct, African-American officers have been well represented in the upper ranks and multiracial camaraderie prevails" (p. 1). Moss then contrasts these TV shows to the harsh reality that African-American officers face in actual police forces. Police chiefs across the nation are faced with challenges as they relate to achieving diversity within their police organizations and diversity in rank (Sklansky, 2006).

The 2007 distribution of males and females in the U.S. population were estimated at 49.8% male and 50.2% female between the ages of 15-64 years (ratio is: 0.996 males to female). Of the U.S. population, 12.9% were estimated to be African American (Central Intelligence Unit, 2007). For the state of Florida, in 2005, 15.7% of population were African American and 51.0% of the population were female (U.S. Census Bureau, 2007).

According to the most recent data compiled by the U.S. Department of Justice (2007), in 2004 there were 17,876 state and local law enforcement organizations with at least one fulltime officer. In 2004, these agencies employed more than 732,000 sworn law enforcement officers. Municipal or local police departments employed approximately 62% of these sworn officers. Sheriff's offices employed 24% of these sworn law enforcement officers. Special jurisdictions and state agencies employed the remaining 15% of these officers (U.S. Department of Justice). However, African-American officers in the nation's cities, with a population of 250,000 or more, increased from 18% to 20% of the total number of officers between 1990 and 2000. The percentage of African-American officers in sheriffs' departments decreased from 9.9% to 9.0%.

In 2004, there were 75 local and county organizations in Florida that employed at least 100 sworn law enforcement officers. Combined, these Florida organizations employed over 21,000 sworn officers. African Americans made up approximately 27% of sworn officers within 74 of these 75 agencies and in one agency 69% were African American. Females accounted for less than 15% of sworn personnel within 66 of the 75 agencies. In the remaining nine agencies fewer than 26% of the sworn personnel were female (U.S. Department of Justice, 2007). No data were found that combined both race

and gender (i.e., the number of sworn officers who were African-American females). Whereas White female officers are subordinated by their gender, African-American females in law enforcement are subordinated by both race and gender and made to feel doubly inferior (Dodge & Pogrebin, 2001). Although there is a growing body of research concerning the ability of women to perform successfully in law enforcement, very little research examines the work experience of nonWhite female officers (Felkenes & Schroedel, 1993).

In a study by Martin (1994), both African-American and White women police officers stated that they were excluded from the dominant members of the workforce within their agencies but these exclusions also varied along racial lines. White women were stereotypically overprotected; whereas, African-American women suffered denigrating stereotypes which included being beasts of burden and welfare recipients. According to Chiliwniak (1997), "The racial and gender gap is a numerical inequity and should be corrected for ethical reasons" (p. 45).

### **Purpose of the Study**

The numerous studies investigating race, ethnicity, gender, and the attainment of leadership positions within organizations focus primarily on the glass-ceiling effect. Few have empirically addressed the issue of the glass-ceiling effect in law enforcement organizations, specifically law enforcement organizations in Florida. The purpose of this nonexperimental, exploratory (comparative) and explanatory (correlational) research was to examine the glass-ceiling effect in local and county law enforcement organizations in the State of Florida from the perspective of human capital assets, demographic characteristics, organizational characteristics, distributive justice, procedural justice,

perceived barriers to career advancement, perceived facilitators to career advancement and the attainment of leadership positions. The purposes for this study are:

1. A descriptive purpose was to describe the human capital assets, demographic characteristics, organizational characteristics, and perceptions of procedural justice, distributive justice, perceived barriers and facilitators to career advancement and the attainment of leadership positions in local and county law enforcement organizations in the State of Florida.

2. An exploratory (comparative) purpose was to determine if there were differences in human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career advancement and the attainment of leadership positions in local and state law enforcement organizations in the State of Florida.

3. A second exploratory (comparative) purpose was to determine whether there were differences in human capital assets, demographic characteristics, organizational characteristics, distributive justice, procedural justice, perceived barriers to career advancement and perceived facilitators to career advancement and the attainment of leadership positions according to race and gender within local and county law enforcement organizations in the State of Florida

4. An explanatory (correlation) purpose was to determine if human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career advancement were significant explanatory variables of the attainment of leadership positions within local and county law enforcement organizations in the State of Florida.

5. A fifth purpose was to contribute to the empirical validity of Cotter et al.'s (2001) criterion-based glass ceiling propositions of:

A glass ceiling inequality represents a gender or racial difference that is not explained by other job-relevant characteristics of the employee. A glass ceiling inequality represents a gender or racial difference that is greater at higher levels of an outcome than at lower levels of an outcome. A glass ceiling inequality represents a gender or racial inequality in the chances of advancement into higher levels, not merely the proportions of each gender or race currently at those higher levels. A glass ceiling inequality represents a gender or racial inequality that increases over the course of a career. (p. 5)

### **Definition of Terms**

#### ***The Glass-Ceiling Effect***

##### ***Theoretical Definition***

The glass-ceiling effect is part of the culture of an organization. The glass-ceiling effect is described in many different forums referring to both race and gender. Fisher and Van Vianen (2002) described the glass ceiling as “a mechanism of exclusion and selection, the dynamics of which forms a barrier for women’s careers” (p. 6). Cotter et al. (2001) implied that the glass-ceiling effect takes place when the effects of “gender or other disadvantages are stronger at the top of the organizational hierarchy than at lower levels, and that these disadvantages become worse as a people advance in their careers” (p. 3). Another description of the glass ceiling is as an “artificial barrier that prevents qualified individuals from advancing within their organization and reaching full potential” (The Lewis Group, 2003, ¶16).

### ***Operational Definition***

For the purpose of this study, the criterion-based definition of Cotter et al. (2001) was used. According to Cotter et al., “The glass-ceiling effect implies that gender (or other) disadvantages (if gender is considered a disadvantage) are stronger at the top of the hierarchy than at lower levels, and that these disadvantages become worse later in a person’s career” (p. 5).

### ***Human Capital Assets***

#### ***Theoretical Definition***

Human capital assets refer to the stock of productive skills and technical knowledge embodied in labor (Sveiby, 2001). Human capital theory suggests that those who obtain job-relevant personal assets such as education, experience, training, and competences are more successful in their careers, jobs, and organizations than those people with a smaller amount of these assets (Becker, 1993; Sagas & George, 2004).

#### ***Operational Definition***

In this study, Part 1 of the *Human Capital Assets and Attainment of Leadership Positions* survey used a modification of Hollingshead’s education scale reprinted in Miller and Salkind (2002). There were six items to measure *Human Capital Assets*. These included the highest educational level attained, level of advanced training, knowledge, tenure, and rank within state and local law enforcement organizations (see Appendix A, Part 1).

## ***Demographic Characteristics***

### ***Theoretical Definition***

Demographic characteristics are characteristics of the population or the demographic outlines used in such research. Commonly-used demographics include race, age, income, educational attainment, employment status, and location (Sklansky, 2006; Wagner, 2007).

### ***Operational Definition***

In this study, Part 2 of the survey was developed by the researcher and contained four items to measure *Demographic Characteristics*. These characteristics included race, ethnicity, gender, and age (see Appendix A, Part 2).

## ***Organizational Characteristics***

### ***Theoretical Definition***

Organizational characteristics in law enforcement organizations are the defining features which include personnel expenditures and pay, operations, policies and programs, equipment, and computers and information systems (U.S. Department of Justice, 2007). Organizational characteristics are further defined in theory as size, structure, technology, and promotional systems within organizations (Ferris et al., 2004).

### ***Operational Definition***

In this study, Part 3 of the survey measured the *Organizational Characteristics* of each law enforcement organization. These items included organization size (number of sworn law enforcement officers), state or local affiliation (municipal, county, or state),



union affiliation (union or no union), and promotional process (appointed or promoted).

This part of the survey was developed by the researcher (see Appendix A, Part 3).

### ***Procedural Justice***

#### ***Theoretical Definition***

Procedural justice is a term used in organizational justice research and refers to the fairness of the procedures used in determining outcomes within an organization (Folger & Greenberg, 1985; Moorman, 1991).

#### ***Operational Definition***

In this study, Part 4 of the survey measured *Procedural Justice* using a scale called Moorman's (1991) *Measure of Procedural and Interactional Justice*. The six items pertained to clarification of information, representativeness in decision making, consistency in the decision-making process, accuracy of information upon which the decision was made, thoroughness of information upon which decisions are made, and opportunities to challenge decisions. A 7-point Likert scale which ranged from 1 (*strongly disagree*) to 7 (*strongly agree*) was used to assess respondents' opinions on each item (see Appendix A, Part 4).

### ***Distributive Justice***

#### ***Theoretical Definition***

Distributive justice is a term derived from early research by Adams (1965) based on social exchange theory. According to Adams, "This theory proposes that employees perceive unfair treatment when they receive fewer returns than they expected, and fair treatment when the rewards were considered to be commensurate with their input in the job" (p. 3). The term has been described as the fairness of the outcomes of the process by

which rewards are received within an organization (Price & Mueller, 1986; Sorensen, 1985).

### ***Operational Definition***

In this study, Part 5 of the survey measured *Distributive Justice* by the *Distributive Justice Index* developed by Price and Mueller (1986). The scale contained five items measuring the extent to which respondents are fairly rewarded considering their responsibilities, the amount of education and training attained, amount of experience, amount of effort put forward, the work that they have done well, and the stresses and strains of the job. Six response categories ranged from 1 (*very unfairly*) to 5 (*very fairly*) were used to assess respondents' opinions on each item (see Appendix A, Part 5).

### ***Perceived Barriers and Facilitators to Career Advancement***

#### ***Theoretical Definition***

Perceived barriers to career advancement originate from tokenism theory (Kanter, 1977a) and later advancements to the theory (Yoder, 1991). These theories and subsequent research suggests that females in leadership positions would face several barriers to career advancement. These barriers include not being a good fit within cultures dominated by males, being excluded from informal interactions where critical information was shared, not receiving appropriate mentoring, lack of critical developmental assignments that leads to advancement, more reliance upon formal processes for promotional opportunities (Van Velsor & Hughs, 1990), and not being allowed chances for mobility geographically (Adler, 1984). Theories on facilitators to career advancement are derived from studies involving female executive participants

(Lyness & Thompson, 2000). They include having a good track record of accomplishments (Mainnero, 1994), the development of social relationships, proactive measures in setting own career goals, taking on challenging assignments, and taking risks (Catalyst, 1996).

### ***Operational Definition***

In this study, Part 6 of the survey measured *Facilitators and Barriers to Career Advancement* with two scales developed by Lyness and Thompson (2000) to measure perceived barriers to career advancement (Part 6a) and perceived facilitators to career advancement (Part 6b). The first scale, *Perceived Barriers to Career Advancement*, contained 26 items organized into six subscales: Lack of Culture Fit, Exclusion from Informal Networks, Lack of Mentoring, Poor Organizational Career Management Processes, Difficulty Getting Developmental Assignments, and Difficulty Obtaining Opportunities for Geographic Mobility. Five response categories ranged from 1 (*no problem at all*) to 5 (*a very serious problem*) and were used to assess respondents' opinions whether these items have been a problem in their own career advancement (see Appendix A, Part 6a).

The second scale, the *Perceived Facilitators to Career Advancement* contained 21 items divided into five subscales: Having a Good Track Record, Developing Relationships, Managing Own Career, Mentoring, and Having Developmental Assignments. Five response categories were used to assess respondents' perceptions of whether the items have been facilitators in their own career advancement ranging from 1 (*not a facilitator*) to 5 (*a very important facilitator*) (see Appendix A, Part 6b).

## ***Leadership Positions***

### ***Theoretical Definition***

Leadership positions within organizations are those positions or roles that involve having authority over others, which inherently means all of the positions or roles within hierarchies other than the bottom ones (Werhane, 2007). Another theoretical definition of leadership is the process whereby one person tries to influence others to attain the expected objectives in a group of more than two persons (Wickham & Walther, 2007).

### ***Operational Definition***

In this study, Part 1 of the survey, *Human Capital Assets and Attainment of Leadership Position*, included one ranked item that measured the *Attainment of Leadership Position*. A rank consists of six response categories, including chief executive officer, assistant chief, major, commander, captain, lieutenant, and sergeant or the equivalent (see Appendix A, Part 1).

### **Justification**

The study was justified in that it was significant, the topic was researchable, and the research was feasible. The significant contributions of this research may be to the knowledge of the body of literature relating to the glass-ceiling effect in local and county law enforcement organizations. The majority of the research concerning the disparity according to race and gender in leadership positions focuses on the effects of the glass ceiling. The glass-ceiling effect implies that gender (if gender is considered a disadvantage) or other disadvantages such as race are stronger at the top of the organizational hierarchy than at lower levels, and that these disadvantages become worse later in a person's career (Cotter et al., 2001).

Nowhere is the glass-ceiling effect more prevalent than in law enforcement organizations (Reinerth, 2001). However, there is limited empirical research on the topic in law enforcement organizations. The research is generally restricted to corporate organizations. The results of this study may contribute to the body of research concerning the glass ceiling as it relates to human capital assets, demographic characteristics, organizational characteristics, perceived procedural justice, distributive justice, and barriers and facilitators to career advancement in county and local law enforcement organizations. The results of this study may help chief executive officers make informed decisions about recruiting, hiring, and retaining minority and women law enforcement officers.

This study was researchable because the questions formulated were scientific and each variable, contained in hypotheses, were measured. The theoretical framework based on theories about the glass-ceiling effect, human capital assets and the attainment of leadership positions, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and barriers and facilitators to career advancement were assessed, and research questions were answered and hypotheses were tested. The research was feasible because participants were accessible. The study was conducted over the Internet and participants were available. Because the research was conducted over the Internet the cost of the study was minimal. Lastly, guidelines and procedures of the Lynn University Institutional Review Board were followed by the researcher to ensure the protection of the rights of human subjects.

## **Delimitation and Scope**

The delimitations in this study are as follows:

1. Participants were law enforcement officers in supervisory level leadership positions only (sergeants and above).
2. The setting (geographic) was confined to the state of Florida.
3. The setting (organizational) was those organizations that employed 100 or more law enforcement officers.
4. The target population consisted of law enforcement officers employed only at local and state law enforcement organizations.
5. Participants had to be age 21 and above, as Florida law prohibited anyone under the age of 21 from being certified as law enforcement officers.
6. Participants were limited to those who could read and write English.

## ***Organization of Study***

An introduction and overview of this study was presented in Chapter 1, beginning with an introduction and background to the research problem that necessitated the study. Current issues facing minorities in the attainment of leadership in local and county law enforcement organizations in Florida were discussed. The specific purposes of the study were addressed. These purpose were descriptive, exploratory (comparative), and explanatory (correlational), and theoretical development by providing empirical validity to the research of Cotter et al. (2001) on the glass-ceiling effect. Theoretical and operational definitions of each variable in the study were presented.

Chapter I also provided the justification of the study and explained how findings may contribute to knowledge about the attainment of leadership positions in state and

local law enforcement organizations in Florida, in the context of the glass-ceiling effect, human capital assets, demographic characteristics, organizational characteristics, distributive justice, procedural justices, and barriers and facilitators to career advancement. The final section addressed the delimitations and scope of the study.

Chapter II presents the review of the literature, the theoretical framework, research questions, and hypotheses. The literature review concludes with a synopsis of the strengths, weaknesses, gaps, and recommendations for future inquiry. The second section is a presentation of the theoretical framework which guided the study. Research questions proposed for the study are presented in the third section of the chapter. Hypotheses are formulated in the fourth section of Chapter II, and a hypothesized model of the study variables is presented.

The research methods are presented in Chapter III. The chapter contains a description of the research design, target population, sampling size, setting, survey instruments, procedures relating to ethical considerations of the study and data collection methods, and the method of data analysis. The chapter also contains the evaluations of the research methods in this study about the glass-ceiling effect, human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and barriers and facilitators to career advancement.

Chapter IV contains the findings of the data analysis, including the descriptive characteristics of the final sample, answers to the research questions, and the results of the hypotheses tested. Interpretations of the findings and the results are presented in Chapter V. The conclusions of the study are stated as well as their implications, limitations of the study, and recommendations for future research.

## **CHAPTER II: REVIEW OF THE LITERATURE, THEORETICAL FRAMEWORK, RESEARCH QUESTIONS, AND HYPOTHESIS**

Chapter II analyzes the theoretical, methodological, and empirical literature about the glass-ceiling effect and examines human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceived facilitators and barriers to career advancement. A gap in the literature concerning the glass-ceiling effect in law enforcement was found. For this research study, recommendations for future scholarly inquiry were made based on the gaps in the literature. A theoretical framework for this study was developed which led to the formulations of research questions and hypotheses to be tested.

### **Review of the Literature**

#### ***Demographic Characteristics and Leadership Positions***

##### ***Gender and Job Satisfaction***

In a study by Burke and Mikkelsen (2005a), female officers perceived equal opportunity at much lower levels than males. They also pointed out “more reasons for career opportunity differences (i.e., discrimination and more sexual harassment) than their male counterparts” (p. 11). These three findings resulted in overall lower job satisfaction among female officers. In another exploratory study, Burke and Mikkelsen (2005b) reported that few differences were found among job demands, but male officers experienced more violence and threats; whereas, female officers dealt with more discrimination and harassment. Contradictory to the former study, they found that male officers and female officers experienced a similar degree of job satisfaction.



## ***Gender and Institutionalization***

Lucas (2003) proposed an institutionalization theory for women. Lucas argued persons who are socially disadvantaged will experience more resistance when they reach leadership positions. Women are considered socially disadvantaged, as opposed to men, even when all other things are equal. Lucas argued that if female leadership is *institutionalized*, the gap between male and females in leadership positions can be reduced. Institutionalization theory “is the process by which social processes take on a rule-like status in social thought and action” (Lucas, p. 464). Institutionalization occurs when female leadership is required, when others see that successful groups contain female leaders, and other groups see that groups similar to theirs have females in leadership positions.

Lucas (2003) conducted an experimental study where participants were told that they were participating in a study for a fictitious company. While waiting to complete the study, they were shown a video which institutionalized women. During the study, they were inundated with literature and logos advocating women leaders. The results showed that the effect of institutionalization was that female leaders, appointed on ability, attained influence as high as males leaders appointed on ability. Influence, as described in this study, is the influence over the participants in the experiment.

Lucas’ (2003) study is problematic because there is no sampling design. There is not a mention of the characteristics of participants. Were they male or female and in what proportions? What was the makeup of the participants? What was the age range? As Lucas explained, institutionalization had to be created in this experiment. Participants were shown a video in which females are portrayed as strong and powerful leaders. This

was supposed to artificially create institutionalization in the minds of the participants. However, this does not appear to be the best manner in which to create artificial institutionalization. For example, Zucker (1977) created institutionalization in her experiment by allowing members to communicate group standards to new members. Lucas recognized this but continued to use the video.

### ***The Gender Theory***

Chiliwniak (1997) sought to explain the gender gap within educational institutions. According to Chiliwniak, "Organizational culture affects curriculum and administration because the values of an institution dictate how resources are allocated based on the values of the institution"(p. 10). A theory that relates to organizational culture which emerges is called the gender theory and is a form of leadership theory. Gender differences are said to affect the values of organizations. Again, the glass-ceiling effect is discussed. Unlike Cotter et al. (2001), the glass-ceiling effect in education is described as, "Men view their perspectives and norms as gender neutral organizational structures, and assume that the structure is asexual; women experiences are invisible; labeling and stereotyping place stumbling blocks in the career paths of women; there are different spheres for men and women; women cannot enter into the sphere of the men" (p. 657).

The premises of the theory are based on research by Melia and Lyttle (2003) that equates leadership to power and leadership styles. To demonstrate the theory, Melia and Lyttle prepared a table based on dominant values held by traditional leaders at one end and emerging leaders at the other end. A second table described modes. For example, a

traditional value is individuality and the new emerging value is connection. A traditional mode is mechanistic; the opposite emerging mode is holistic.

### ***Race, Ethnicity, and Social Identity Theory***

Slay (2003) attempted to explain why some African Americans will emerge or become successful leaders while others do not. Slay suggested that literature on social identity theories can provide theoretical view on why some African Americans become successful leaders. African Americans who choose certain social identities are more likely to succeed. In opposition to this social identity theory is the theory of self-conceptions of leadership (Waring, 2003). This theory proposes that gender itself influences one's perception of leadership that ultimately determines if a person will become a good leader.

Slay (2003) contended that too much significance is placed on race, an external factor, outside of the realm of one's internal perceptions. More emphasis should be placed on internal factors such as social identity or self-categorization within groups. Several propositions are developed based on this theory. Some of the main propositions are that (a) people within organizations may adjust their identity to be seen as leaders, aspiring to become leaders they choose to work in conditions where they may be seen as prototypical (which is favorable) individuals; (b) those African Americans who want to be leaders will be more likely to depersonalize themselves and others in organizations as opposed to other ethnic groups.

Slay (2003) recommended the use of network methodology to test the propositions in future research. The main problem with this theory is that it minimizes race as a variable. No empirical evidence to support any of these propositions was found.

### ***Race, Ethnicity, and the Leader Label***

Doctoral students given the task of the development of leadership training within their university, designed an empirical study in an attempt to understand why minority students elect to participate in low numbers in leadership development programs, at two other institutions in the area (Arminio, Carter, Steven, Jones, & Kruger, 2000). The qualitative (exploratory) study involved 106 interviews conducted by researchers at both institutions. Participants were 22 African-American men, 12 African-American women, 18 Asian American women, 25 Asian American men, 12 Latinas, and 17 Latino men. The age ranges were 18-21 years. The researchers realized that the term *student of color* would encompass a variety of students; however, they focused on the students who identified themselves as a particular race inclusive of the American nationality. International students were excluded. An intensity and snowball sampling technique was used to identify participants who held formal or informal leadership positions (Arminio et al.). The intensity and snowball technique employs a strategy whereas after the original participants are interviewed, they are asked by the researchers if they have knowledge of other formal or informal leaders outside of the institution. These other individuals are then contacted for interviews. Open-ended questions focused on leadership experience, values, feelings, and opinions. However, the design minimized variations across interviews. Phenomenological research methods were employed to analyze the experiences of minority students.

The results showed several conceptions along a common theme such as the *leader label*, *personal cost of leadership*, and *lack of role models*. To be specific, students of color identified these factors as reasons why they stayed away from leadership positions.

They did not like being labeled a leader. Leadership took up too much of their personal time and they lacked role models as leaders (Arminio et al., 2000). The study had no clear measurements of leadership experiences and open-ended questions based on feelings, opinions, and values were too broad. Further study that takes into account cultural differences is need in this area.

### ***Race, Gender, and Self-Conceptualization***

Some literature does examine the effects of both race and gender on leadership positions within organizations. Waring (2003) provided a case study of 12 African-American female college presidents. The purpose of the study was to explore the origins and conceptions of leadership among African-American female college presidents. Studying these women was an attempt to identify how race and gender may affect the attainment of leadership and the role of self conception in attaining leadership positions.

In this qualitative study, Waring (2003) interviewed the women using a modified version of a previously developed questionnaire. This questionnaire considered topics such as education, career history, social class, and background. However, Waring modified it by adding questions concerning leadership and chronology of positions held. Waring's conclusion supported prior research finding (i.e., Bass, 1990) that women are oriented towards relationships, whereas men are task oriented. Another finding was that conceptions of leadership were related to personalities. African-American women were found to have to work harder in order to show who they were and to showcase their abilities. Lastly, race was the most salient variable and barrier for African-American women.

Waring (2003) recommended that since leadership is a relationship with other people, accounts should be considered to determine if the leader's followers see their efforts in the same manner. Future research should focus on the input and perceptions of the followers. These conclusions seem to stray from the original purpose of the study. The conclusions suggest that the study has no value in explaining how self-conceptions of leadership, among the participants, would assist in explaining the effects of race and gender on leadership. It would be more relevant to see a case study involving African-American males or a different combination of gender and race.

An earlier qualitative study conducted by Parker (1997) examined African-American women executives' leadership communications within organizations where other cultures were dominant. The research was a field study design, and the sample included 13 African-American women executives in upper management, two in upper middle management, one or more of each executive's subordinates, and the executives' supervisors in four of the cases. The African-American women were chosen based on whether they were employed in dominant culture organizations. Industries represented were communications, insurance, education, and state and federal governments.

Data collection was by interviews, direct observations, and archival research (Parker, 1997). Grounded theory procedures were used for data analysis. The analysis resulted in several themes that challenge views of women as collaborators who dislike control oriented leadership. They were *interactive communication*, *empowerment*, and *leadership through boundary spanning* (Parker, 2001, p. 50). The study challenged the previously held views of African-American women as direct control-oriented communicators. Limitations in this study were few. However, chi-square analysis of the

data to determine if the themes derived from this study were distributed equally throughout the population was not conclusive.

### ***Race, Gender, and Tokensim***

Tokenism is normally used to describe the difference of a work group member from a dominant group (Yoder, Anaikudo, & Berendsen, 1996). An example would be African-American females in leadership positions within law enforcement. Yoder et al. attempted to look beyond race and examine its omnirelevance to understand the process of tokenism. The findings in the study, however, highlighted instead the importance of both race and gender combined in understanding the social impact of the tokenism process.

Seventy-six White women and 53 African-American women undergraduates rated a woman of the same race as themselves who was described as either a dominant group member or as a token based on gender alone, race alone, or both race and gender. Results showed that White women tokens were perceived to experience better social relations, more support from colleagues, and less stress than their Black female counterparts did. Most importantly, the results showed that tokens experience more stress because they are more salient, socially isolated, and are encapsulated in a gender role. Their findings appear to reiterate the importance of the findings of Martin (1994). Yoder et al. (1996) admitted that further qualitative research is indeed needed to examine gender differences. They further recommend the use of actual tokens within organizations to further understand the process (Kanter, 1977a).

## ***Racism and Discrimination***

The disparity concerning race and leadership positions span across all organizations. In a qualitative study of management information workers, a sampling design produced 69 African American-White pairs from a telecommunications company were matched on age, job function, tenure within the organization, and organizational level (Igbaria & Wormley, 1992). Measurements were created for such variables as acceptance from organizations, job discretion, and career support. Participants were evaluated almost exclusively by White, male managers using a supervisory survey on job performance and advancement. Analysis of the data showed that African Americans got less support from their supervisors and received lower performance ratings. This was crucial to their determining that leadership positions such as job discretion, career support, and participation in training programs were all related to supervisor ratings. Job performance was definitely related to supervisors' predictions of advancement as measured in evaluations. For example, White employees were more satisfied with their careers based on the predictions of the supervisors. The study found that though African Americans had gained entry into management information fields, it has been difficult for them to advance professionally and managerially. The results of the study suggested that minorities experience discrimination in their jobs, specifically in job performance measurements, which ultimately impedes their advancement to leadership positions (Igbaria & Wormley).

The matched-pairs design of the Igbaria and Wormley (1992) was good. However, the majority of the evaluators in the study were White males. Comparing the differences of White versus African-American supervisors is an area of future study.



Other researchers make no attempt to cover up the fact that racism is the key variable which denies non-Whites access to leadership positions. Goldfield (2003) stated that, “non-Whites have been discriminated against, excluded from, and denied equal access to political, social, and economic opportunities and those White labor organizations have participated in the oppression” (p. 1).

Similarly, an empirical study by Foster et al. (2002) found that participants gave negative ratings to African-American leaders and White subordinates, and positive ratings to White leaders and African-American subordinates. This suggested that the participants favored African Americans in their stereotypical roles as subordinates and Whites in their stereotypical roles as leaders. They further stated that this is a form of aversive racism which is an insidious form of racism that comes about when individuals attempt to justify their negative feelings toward African Americans based on factors other than race.

Thompson (2006) surveyed 123 African-American participants concerning their experience as executives in their respective law enforcement organizations. The study addressed the following research questions:

1. What are the perceptions of the present study sample regarding the nature of their current or most recent relations with subordinate White personnel?
2. What are the perceptions of the present study's sample regarding the nature of their current or most recent relations with subordinate Black personnel?
3. What are the perceptions of the present study's sample regarding the nature of their current or most recent relations with White supervisory peers?

4. What are the perceptions of the present study's sample regarding the nature of their current or most recent relations with the minority community, family, and friends? The main hypothesis in the study suggested that the participants would perceive social isolation from groups such as subordinates (regardless of race), White peers (who were equal in rank), as well as family and friends. These groups were labeled support and reference groups. An analysis of the data did not support the main hypothesis or other hypotheses. The results showed that African-American law enforcement executives were well adjusted socially and well integrated in their leadership roles. In this study however, 95.9% of those who responded were African American. Only 4.1% were African-American females. This study, as with many others leaves out the affect of the double minority status of African-American females.

#### ***Contextual Factors Affecting the Organizational Commitment***

Morris, Shinn, and Dumont (1999) examined the relationship of contextual factors such as negative social interactions, support from management, coworkers, and family on the organizational commitment of diverse police officers within the former New York Housing Authority Police Department. The police department had 2,090 members when the study was conducted. There were 16% African American, 12% Hispanic, and 12% female. The sample contained 372 police officers. Thirty-one were women of color, mostly African American. A questionnaire was developed, based on focus group participation and informal interviews, with a particular interest on the constraints experienced by female police officers. Analysis indicated women and minority police officers experience more negative social interactions than White men, but this did not affect their commitment to the organization. The results of the study suggested command

level personnel, that is top level management such as chiefs and captains, can promote the accommodation of diversity within police organizations, spearhead support for the police officers' job from family and friends, and enhance the quality of the work experience on the job.

Morris et al.'s (1999) study is critical to the creation of parity for African-American females in law enforcement, as support from upper management is crucial in the attainment of leadership positions. Morris et al. further concluded that management in police organizations should continue to address the concerns of all police officers as it relates to fairness and equity, and that White men need to be involved in efforts to address diversity issues within the organization. Several limitations listed in the study included the uniqueness of the Housing Authority Police Department in that they only serve public housing residents, and the reliance upon self-reported data. This study was a quantitative study using a Likert scale survey instrument. Specific insights as it related to specific subgroups (i.e., African-American females) could be expounded upon, similar to the seminal work of Woody (1992), where interviews were conducted referencing stress and job satisfaction. The results showed that job satisfaction and commitment were intrinsic and based on self-sufficiency and self-motivation.

### *Age*

Age plays a role in the attainment of leadership positions in that it is associated with experience, knowledge, work habits, attitudes, and commitment to quality for older workers. For younger workers it is flexibility, acceptance of change, adaptation to new technology, and physical capability (Dennis & Thomas, 2007). Data compiled by the American Association of Retired Persons (AARP; 2000) shows that age can affect

leadership positions negatively in the form of ageism, where negative perceptions such as workers being perceived inflexible, resistant to new ways, physically limited, complacent, and costing more for health insurance, can be a barrier to career advancement and leadership positions.

In another AARP study, it was found that positive characteristics attributed to older employees were not always valued by employers. Managers from 12 participating large companies did not rate characteristics such as experience, judgment, commitment to quality, low turnover, good attendance, and punctuality, highly. Surprisingly, however, characteristics such as flexibility, adaptation to technology, and physical ability, in which older employees were rated low, were seen as critical to success by managers (AARP, 1995).

In other research where age was a variable, it did not affect the dependent variable. In a study by Alkadry and Tower (2006), age was examined as a human capital variable in pay disparities and upward mobility between males and females. An online survey using 36 questions was sent to over 6,700 participants. A total of 1,673 participants responded. The findings showed that age did not affect the wage gap or the upward mobility of males and females, and did not explain the variance in the wage disparity.

### ***Human Capital Assets and Leadership Positions***

The barriers to pay equity and equal employment opportunity for women and men are said to be very complex and interconnected, and too difficult to create a typology that would be useful in a study. Organizational barriers are interconnected with sociocultural and human capital barriers. Some researchers attribute the pay disparity between men and

women to women's tenure in the workforce compared to men's. Educational differences and different work experiences are other explanations. Years of experience in one's field and current job tenure play a role in determining the salaries and career success of individuals (Holzer, 1990). According to Kelly (1991), "Human capital theories suggest that investments in one's human capital, such as education, responsibility, experience, age, and leadership abilities, explain differences in success between males and females" (p. 33).

### ***Education***

The type and quality of education is reportedly a contributing factor in the salary gap between men and women. Education is a critical factor that must be controlled for in studies of pay disparity and differences in the career advancement between male and female. However, education becomes relevant only if there are differences in the level of education between men and women (Rumberger & Thomas, 1993; Solomon & Wachtel, 1975).

Is a degree necessary in law enforcement for career advancement, regardless of race and gender? After decades of discussion the debate concerning the necessity of a college degree in law enforcement continues (National Center for Women in Policing, 2006). Whether police officers with degrees are more qualified to perform their jobs than those who are not has been researched for some time. Some researchers reported college-educated officers are more flexible, aware of social and ethnic problems on the job and in the community, and have a greater acceptance of minorities (Kakar, 1998). Others suggest postsecondary education prior to employment decreases the frequency with which police officers receive personnel complaints (Wilson, 1999). Yet others believe

that education plays a small, but important, role in police performance promotions or retention (Schanlaub, 2005).

The first step in the achievement of leadership positions for African-American female officers, or any officer for that matter, is the promotion to the rank of sergeant in most law enforcement agencies. In a study of educational achievement and study strategies used by promotional candidates (Whetstone, 2000), test scores correlated positively with educational achievement. However, those candidates who lacked educational achievement were able to rely upon different study methods to achieve comparable scores. The study was conducted at a Midwestern police department with 720 sworn members. Only 72 of the 340 eligible officers took the written examination. An exit survey was used to gather observations from the 72 candidates about preparation methods; time spent studying, and predicted test scores. Demographic information was also obtained. When the actual scores were revealed, males received slightly lower scores than females. However, minorities received scores significantly lower than their White counterparts on the promotional test. Though the purpose of the study was to examine the correlation of college education to test scores and did touch upon race and gender issues, it could have been further enhanced if there was a more detailed analysis of gender and minorities with the lower scores.

### ***Differential Access to Supervisory Jobs and the Gender Wage Gap among Professionals***

Mitra (2003) conducted a secondary analysis of data from the National Longitudinal Survey of Youth. The data contained information from 12,686 men and women who had been interviewed every year since 1979. Detailed questions about

human capital attainment and labor market status were asked along with two others pertaining to family background and personal characteristics. The study was a crosssectional analysis of fulltime professionals who were 33 to 41 years of age in 1998. It was hypothesized that demographic and background characteristics, but not necessarily physical characteristics, may have indirect effects on the professional's human capital attainment. Human capital attainment was operationalized as education, test scores, job experience, and tenure. It was further expected that human capital attainment would be significant in the process of wage attainment among professionals.

Descriptive statistical results showed that across all levels of supervisory jobs, men earn 15% higher wage premiums than women (Mitra, 2003). Male professionals in large organizations have more access to supervisory jobs than their female counterparts have, and women were more concentrated in jobs with female bosses and managed fewer men. Stated another way, females were basically found in predominantly female jobs with female bosses and, thus, segregated in large organizations. Men held more "meaningful" supervisory jobs than women did. These meaningful jobs were described as the decision-making and authoritative jobs. In addition human capital, as expected, was a key variable in the allocation of meaningful supervisory jobs. Most importantly, men were shown to hold positions of authority more than women did (Mitra).

Mitra (2003) admitted that the findings would have been more meaningful had the study been able to sort the various occupations within professional fields. However, the study would have been even more meaningful if the author had expounded upon the physical attributes, such as race, along with the gender variable, which was supposed to be one of the primary components of the study. The gender wage gap and the disparity in

access to supervisory positions would have to increase exponentially if race and ethnicity were considered. This study, as with other studies in the past, has as the defining group for conceptualizing leadership in organizations, the White middle-class male (Parker, 2005).

### ***Organizational Characteristics***

#### ***Size of Organization***

The size of a company has an effect not only on differences in pay but also on pay itself (Langer, 2000). Bertrand and Hallock (2001) found that in larger companies 75% of the wage gap between male and female executives was explained by company size and by the fact that women were less likely to become leaders (i.e., chief executive officers, chairs, vice chairs, or presidents) of these companies. They found no evidence that industry segregation had any effect on the wage gap. Once women executives' age and seniority were controlled for, the gap in pay fell to less than 5%.

Compensation was also affected by the level of responsibility of each individual. Sales volume and organizational size influence an employee's workload and, consequently, the compensation of that employee (Langer, 2000; Ogden, Zsidisin, & Hendrick, 2002). Certain responsibilities such as supervision influenced the compensation of employees (Langer; Ogden et al.). People with more responsibility; be it supervisory or financial, would reasonably be compensated at higher levels than those with fewer responsibilities.

A study of executives in the private sector purchasing profession found that the gap between the average salaries paid to women and men was \$17,600 (Fitzgerald, 1998). The women in the private sector organization were less experienced and younger, their



supervision and related responsibilities were lower, they controlled lower purchasing volumes, they were less educated, and they did not hold as many senior positions as men. However, even when these factors were controlled, the average compensation of women remained lower than that of men in the purchasing field. Other human capital barriers include leadership abilities (Powell, 1988; Rosener, 1990) and managerial aptitude (Kelly, 1991). Groshen (2001) even argued that, "In the human capital model, the wage gap is associated with occupation and with the individual, unless establishments or job cells are sorted by quality" (p. 468).

More than half of the 17,876 law enforcement organizations in the United States are small, employing fewer than 10 fulltime officers. They accounted for only 5% of all sworn officers. However, two thirds of all sworn officers were employed by just 6% the larger agencies employing over 100 officers (BJS, 2004). Though not in law enforcement, research has been done to investigate whether the size of an organization affects the opportunity of advancement to leadership positions. Previous theories suggested that the size of an organization is a proxy for growth and must be positively related to career progression and success (Melamed, 1996).

Research conducted by Nabi (1999) tested the structural variable of organizational size and its effect on subjective and objective career advancement. Subjective career advancement was measured by a scale using 18 items which assessed work role, financial, interpersonal, and hierarchal success. Objective career success was measured by salary. The study, conducted in Britain, drew a sample of 2,585 employees from six higher education institutions. Responses from 723 were received. The results did not support the hypothesized link between organizational size and subjective career success.

Nabi believed that employees in this study did not use organizational size as a frame of reference, and did not tend to feel more successful when perceiving favorable opportunities for career advancement. Organization size was, however, associated with objective career advancement but was not at all the strongest predictor.

### ***Union Affiliation***

An amendment to the Florida State Constitution in 1968 granted public employees the right to collectively bargain with employers in the public sector. This allowed local law enforcement officers the right to unionize and to bargain collectively. However, public sector law enforcement officers, such as county sheriffs, were not allowed to unionize until 2003, as they were not considered public employees but rather constitutional officers (Pynes & Corley, 2006). Collective bargaining or union affiliation in the public sector has been an important aspect of career advancement opportunities, at least for women (Figart, 1999).

Police unions and subsequent collective bargaining agreements are associated with compensations which are basically monetary in the form of salaries, pay raises, and fringe benefits (Wilson, Zhao, Ren, & Briggs, 2006). Police unions throughout the nation also influence many other aspects of police organizations including departmental policy, procedures on discipline and career advancement to leadership positions. Their influence on career advancement is directly related to their influence on selection and recruitment procedures as well as the promotional process (Kadleck, 2003).

Kadleck (2003) conducted a survey of a large sample of police organizations ( $n = 648$ ) to determine, from the perspective of the unions, the importance of several aspects and relations among police unions and police organizations. These included the goals of

the unions, the extent of their influence, and their effect on the policy of police organizations, and accountability and trust issues. Analysis of the results showed that leaders of these unions believed that they were entitled to an important role in the development of policy. They did not believe, however, that they had too much influence within organizations. Lastly, they believed that they could trust the management of police organizations to make appropriate decisions. This study was one of the first empirical studies analyzing police unions on a large scale. Previous studies about the influence of police unions were reportedly done in the form of case studies on a small number of organizations, and were done from the perspective of the police chief or police management (Kadleck, 2003). No studies have been found in the literature that analyzes the influence of police unions on police organizations, from the perspective of the affected employees, within the organizations.

### ***Equity Theory and Organizational Justice***

Equity theory was first developed by Adams (1963). Equity theory implies that individuals engage in social comparison of their inputs and outcomes to others whom they perceive as relevant. Perceptions of individuals about the fairness of the outcomes relative to the outcomes of others (distributive justice) influence their motivational level. Perceived equity exists when individuals perceive that the ratio of inputs to outcomes is the same for their referent others. Inequity exists when individuals negatively perceive that the ratio of inputs to outcomes is different for them than it is for others to whom they compare themselves. Later research by Adams (1965) focused on procedural justice.

### ***Distributive Justice***

Sorenson (1985) conducted a study of organizational commitment as it relates to behavioral characteristics of absenteeism, turnover, and tardiness. In this study, six items assessed job distributive justice among nurses within a hospital environment. The independent variable of distributive justice was mediated by the variable job satisfaction. The same measures of distributive justice have been adopted for numerous other studies within organizations other than hospitals (Price & Mueller, 1986). Distributive justice was one the variables tested to uncover the perception of the glass ceiling which possibly affected female employee opportunity for advancement in high technology companies (Tai & Sims, 2005). The other variable studied was career advancement measured by perceived barriers and perceived facilitators to career advancement. The results of Tai and Sims study indicated that even though positions held were significantly different for male and females, it appeared that the apparent glass ceiling was noticed by neither male employees nor female employees within their organizations.

### ***Procedural Justice***

An empirical study by Moorman (1991) involved the development of a scale designed to measure procedural justice. Procedural justice is described as the fairness of procedures used to determine outcomes, as opposed to distributive justice which describes the fairness of the outcomes themselves that an employee receives within an organization (Folger & Greenberg, 1985). The scale was developed to measure fairness perceptions and their influence on employee citizenship behavior.

Six items were used to measure procedural justice. Internal consistency reliabilities for the scale were reported above .90. The scale showed discriminate validity

in relation to commitment to the organization and job satisfaction. Confirmatory factor analysis for each item in the scale was above .80. The sample for this study involved two medium sized paint companies in the Midwestern United States. One company was mailed the actual survey and the survey was completed on site at the second company. The findings showed perceptions of procedural justice did not significantly relate to organizational citizenship behaviors. However, another measure (interactional justice) did.

### ***Procedural Justice and Distributive Justice in the Domain of Compensation***

A study conducted by Tremblay, Sire, and Balkin (2000) examined the effects of procedural justice and distributive justice on compensation in three Canadian companies. A sample of 285 employees was used. They focused specifically on pay and pay satisfaction and benefits and benefit satisfaction. The main hypotheses formulated were:

1. There exists a positive relationship between distributive justice regarding pay and pay satisfaction.
2. There exists a positive relationship between distributive justice regarding benefits and employee benefit satisfaction.
3. There exists a positive relationship between procedural justice regarding pay and pay satisfaction.
4. There exists a positive relationship between procedural justice regarding benefits and employee benefit satisfaction (p. 66).

An analysis of the results showed “employees distinguish clearly between pay satisfaction and benefit satisfaction, and that distributive justice perceptions are better predictors of pay satisfaction than procedural justice perceptions” (Tremblay et al., 2000,

p. 66). For employee benefit satisfaction the results were reversed, "Procedural justice perceptions are better predictors than distributive justice perceptions. Lastly, the results show that distributive justice perceptions with regard to pay play a more important role than procedural justice in job satisfaction and satisfaction within the organization"

(Tremblay et al., p. 66). A limitation in this study is the failure to control for demographic characteristics such as race, age, and gender.

The hypotheses were similar in a study by Sarminah (2006) on the effects of procedural justice and distributive justices on work outcomes such as job satisfaction and organizational commitment. Specifically, procedural justice and distributive justice would be positively related to job satisfaction rather than to organizational commitment. The results revealed that distributive justice had more effects on both job satisfaction and organizational commitment than procedural justice did. Again, there were no descriptive statistics on demographic variables.

### ***Perceived Barriers and Facilitators to Career Advancement***

Lyness and Thompson (1997) conducted a study which compared matched samples of female and male executives to find out whether the females had made it above "the glass-ceiling effect." The hypothesis that there would be differences in organizational outcomes such as compensation was rejected based upon the findings. The findings in this study led to questions about how females had advanced to executive positions where females remained underrepresented. Lyness and Thompson needed to determine if males and females followed similar routes to attaining leadership positions, which prompted the study in which the *Perceived Barriers and Facilitators to Career Advancement Scales* were developed. Lyness and Thompson (2000) designed a study to

address the questions generated from the first study. The specific research questions were as follows:

1. Have female executive's experienced different barriers than those experienced by their male counterparts?
2. What facilitated the executive's career advancements?
3. How did females overcome the barriers they faced?
4. Do the developmental experiences and career paths that are related to career success for female executives differ from those for male executives? (p. 97)

Lyness and Thompson (2000) compared two types of gender differences: (a) comparisons of female and male executives' perceived barriers and facilitators to career advancement, developmental experiences, and career histories; and (b) predictors related to the degree of career success for males and females. Seven hypotheses were developed that related to four predictors. An example of a hypothesis was "Female executives will be more likely than male executives to report barriers to career advancement" (p.97).

Two scales containing 11 subscales were used to measure perceived barriers and facilitators to career advancement. Coefficient alphas for the subscales ranged from .70 to .90, in the acceptable range for establishing internal consistency. The self-report questionnaire was used to measure developmental experience and career success as the highest level attained in the management hierarchy and total compensation such as salary and bonuses. Findings suggested that even when developmental experiences and career histories were comparable, females faced greater barriers and the strategies they used to achieve career advancement were different from their male counterparts.

## ***Leadership***

### ***Leadership Styles***

The review speaks generically of leadership positions within organizations since the majority of the existing literature addresses leadership within the private sector, specifically corporate America (Stelter, 2002). However, leadership positions are found throughout all types of organizational institutions. Leadership is one of the most important factors in organizational evolution and success. According to Winder (2003), “Leadership is a complex process by which a person sets direction and influences others to accomplish a mission, task or objective, and directs the organization in a way that makes it more cohesive and coherent” (p. 12).

Many people believe that leaders are born, not made. That is, no amount of education or training can make individuals leaders if they are not born leaders. If that is the case then race and gender would have no effect on leadership positions. These theorists argue that leadership style (i.e., autocratic, laissez-faire, or democratic) determines leadership success (Vroom, 2003).

### ***Leadership Communication Themes***

Parker (2005) discussed five themes related to leadership communication based on case studies of 15 African-American female executives. The themes are (a) interactive communication; (b) empowerment through the challenge to produce results; (c) openness in communication; (d) participative decision making through collaborative debate, autonomy, and information gathering; and (e) leadership through boundary spanning. Parker identified participants for the study based on criteria consistent with those used by researchers interested in top management leadership (e.g., Mainero, 1994; Rosner, 1990).



Participants had to be at the level of director, have had line and supervisory responsibility, and be employed in a major United States dominated culture organization. A modified snowball technique was used of women who fit the criteria; whereas, original samples were obtained from popular magazines.

Interactive communication is the central theme because it supposedly represents African-American women's overall approach to communications. According to Parker (2005), African-American female communication can be seen as both theoretical and relational. In the relational sense, all of the females interviewed placed a high premium on face-to-face interactions. However, the most interesting communication theme was the theme of openness in communications. African-American female executives were labeled as direct communicators. This directness is seen as a negative among Whites because it reflects on the stereotype of the African-American matriarch. However, this same trait is not seen as a negative in other groups. In an exploratory study, Mayfield and Mayfield (2004) found that there is a positive and significant link between communication ability and worker innovativeness.

In their motivating language theory, directness and direction giving is one proponent along with two other mutual factors, empathetic and meaning-making language, all of which are seen as positive. Interviews were used in this study as opposed to a questionnaire as a research instrument. This made it easier to interpret because a questionnaire would have limited the opportunities for detailed explanations (Morrison, White, & VanVelsor, 1987)

### *The Glass Ceiling*

The glass-ceiling effect dominates the literature concerning the effects of race and gender on leadership positions. The glass-ceiling effect is part of the culture of an organization. The glass-ceiling effect is described in many different forums referring to both race and gender. Van Vianen and Fisher (2002) described the glass ceiling as a mechanism of exclusion and selection, the dynamics of which form a barrier for women's careers. Cotter et al. (2001) implied that the glass-ceiling effect takes place when the effects of gender or other disadvantages are stronger at the top of the organizational hierarchy than at lower levels, and that these disadvantages become worse as a person advances in his or her career. Another description of the glass ceiling is as an "artificial barrier that prevents qualified individuals from advancing within their organization and reaching full potential" (The Lewis Group, 2003, 16).

The theoretical and empirical literature on the glass-ceiling effect and racial and gender equity within organizations is so mainstream that the Federal Glass Ceiling Commission was created to deal with the issue. A premier report issued by The Glass Ceiling Commission (1995), described the glass ceiling as an "unseen yet unbreachable barrier that keeps minorities and women from rising to the upper rungs of the corporate ladder regardless of their qualifications or achievements"(p. 4)

Breaking the glass ceiling is a monumental task but it is important to economic growth and prosperity. Florida and Gates (2002), in examining the issue of why certain talented individuals chose to live within certain cities, and why some cities could not attract talented people, developed a theory that a city's diversity, tolerance for a wide range of people, and lack of the glass ceiling, were important. To test their theory, Florida

and Gates came up with four indices to capture the level of diversity and tolerance within the 50 most populated metropolitan areas. Their indices were then compared to a measure of high technology industry concentration and growth. The leading indicator for technological success was not race, gender, or diversity but rather the gay population. Florida and Gates discussed their findings as, "People in technology businesses are drawn to places known for a diversity of thought and open-mindedness as indicated by their ethnic and social diversity. It is this talented labor pool that draws high tech companies and stimulates high tech growth" (p. 6).

The glass-ceiling effect implies that gender disadvantages, or other disadvantages, are stronger at the upper hierarchy within organizations than at lower levels. These disadvantages become even worse later in a person's career (Cotter et al., 2001). The glass ceiling is also a term used to describe barriers that prevent females and other minorities from rising to leadership positions in public organizations and private markets. These barriers are said to be invisible (Glass Ceiling Commission, 1995).

### ***The Glass Ceiling Initiative***

The U.S. Department of Labor's Office of Contract Compliance Programs (OFCCP) was charged with reviewing nine randomly selected Fortune 500 companies. The goals of the study were to explore the theory of the glass ceiling, to promote a diverse workforce, to promote equal opportunity, and to establish a Department of Labor blueprint for future studies. The study found organizational and attitudinal barriers. These barriers were categorized in three major components: (a) informal recruiting practices, differential treatment in career advancement opportunities, denial of credential building

activities and advanced educational opportunities; (b) lack of monitoring of equal access; and (c) opportunity for advancement.

### ***The Brass Ceiling***

The brass ceiling theoretical concept was coined by Schulz (2004). The brass ceiling concept places a new twist on the glass-ceiling concept as it relates to law enforcement. Schultz conducted a case study of the 1% of women who had made it to the top in law enforcement. Data collected from a questionnaire and interviews of these women traced the women's entry into policing and their upward mobility. These responses were enhanced by documents, transcripts, phone conversations, and personal interviews. The questionnaire was developed specifically for the research with the assistance of women police chiefs. The results were a collective portrait of these women and their careers. Schultz concluded that being a pioneering woman in law enforcement is often emotionally painful. The second conclusion was the more society can learn about pioneering women in all professions the easier it will be for future generations to move up more quickly. This is similar to institutionalization.

Schultz's (2004) qualitative case study is weakest in respondent's race. Of the 94 police chiefs who responded to the survey, 84 (88%) were White. Of the 10 remaining women, 3 were African American and 7 were Hispanic and Asian. Some did not list their race. With a convenient sample this small, it would be difficult to generalize Schultz's proposition that learning about pioneers would make it easier for all races to move up in law enforcement more quickly. Schultz's study is, at best, an exploratory study that can be inductively used to develop grounded theory if themes, patterns of common categories, are developed from the data (Babbie, 2004).

### *Synopsis of the Literature*

The majority of the literature concerning the relationships among race, gender, and the attainment of leadership positions is centered on the glass-ceiling effect. The glass-ceiling effect in its simplest form is a term used to describe invisible barriers that prevent women and minorities from advancing to management level positions (The Glass Ceiling Commission, 1995). The glass-ceiling effect normally addresses gender inequality and seldom addresses race within organizations.

Even less research addresses the issue of double minority status, such as African-American females, specifically in local and state law enforcement. The brass ceiling term coined by Schulz (2004) is probably the first attempt to address empirically the issue of the glass ceiling in law enforcement. Schultz conducted a qualitative, exploratory study of known female chiefs of police throughout the nation to explore perceptions of barriers and facilitators in the attainment of their positions. Again the issue of race was omitted.

Other research abundant in the literature concerns distributive and procedural justice grounded in the equity theory by Adams (1965). This theory proposes that individuals believe outcomes are fair when consistent with individual inputs. Studies of perceived barriers and facilitators to career advancement measure the perception of the glass ceiling by participants within their organizations.

No studies were found that examined the double minority impact of race and gender and leadership attainment in law enforcement. Therefore, it is recommended that an exploratory (comparative) and exploratory (correctional) study be conducted on the effects of the glass ceiling in municipal law enforcement with an emphasis on the double minority impact of race and gender, based on the constructs of the glass-ceiling effect, the

attainment of leadership positions, human capital assets, demographic characteristics, procedural justice, distributive justice, perceived barriers to career advancement, and perceived facilitators to career advancement. Based on the empirical and theoretical review of the literature, the discovery of gaps in the literature requiring future scholarly inquiry, and recommendations for future study, an integrated theoretical framework was developed to guide this study

### **Theoretical Framework**

Theories on the glass-ceiling effect have existed long before the term was introduced. The actual term was introduced initially in management circles in corporate America around 1986. The *Wall Street Journal* contributed significantly in describing the term for women and addressed issues and barriers for women, minorities were included later (U.S. Federal Glass Ceiling Commission, 1995). Shortly after the term was introduced, Morrison et al. (1987) brought together the data on the invisible barriers of the glass ceiling, recommended strategies for breaking the glass ceiling, and suggested future initiatives for the glass ceiling.

For the purpose of this study, the criterion-based definition of Cotter et al. (2001) is used. The glass-ceiling effect implies that gender (or other) disadvantages (if gender is considered a disadvantage) are stronger at the top of the hierarchy than at lower levels and that these disadvantages become worse later in a person's career. The four specific criteria are (a) "a glass-ceiling inequality represents a gender or racial difference that is not explained by other job-relevant characteristics of the employee, (b) a glass-ceiling inequality represents a gender or racial difference that is greater at higher levels of an outcome than at lower levels of an outcome, (c) a glass-ceiling inequality represents a

gender or racial inequality in the chances of advancement into higher levels, not merely the proportions of each gender, and (d) a glass-ceiling inequality represents a gender or racial inequality that increases over the course of a career” (Cotter et al., p. 667).

The construct of distributive justice has been extensively studied beginning with the equity theory first developed by Adams (1965). Early research, however, focused attention on distributive justice based on the social exchange theory, which suggests that employees perceive unfair treatment when they receive less returns than they expected and fair treatment when they believed that outcomes were consistent with individual inputs. A significant limitation of this early research is that it focused mainly on the perceived fairness of outcomes. Many researchers recognized that the perceived fairness of the process that was used to determine distributive outcomes also needed to be studied (Thibaut & Walker, 1975). More recently, researchers have begun to investigate the influence of both procedural and distributive justice on organizational attitude and behaviors (Cropanzano & Folger, 1991; Dailey & Kirk, 1992; Greenberg, 1988).

Procedural justice refers to the perceived fairness of the process used to make decisions about issues such as promotions, benefits, and pay (Brockner, Leung, & Skarlick, 2000). Procedural justice focuses on how the decision was made or on the means; whereas, distributive justice focuses on the ends. The proposition is that even when individuals do not like the outcome, they will react more positively if they perceive the process by which the decision was made to be fair (Cobb, 2001).

Perceived barriers to career advancement originate from the tokenism theory (Kanter, 1977a) and later advancements (Yoder, 1991). These theories and subsequent research suggest that females in leadership positions would face several barriers to career

advancement. These barriers include not being a good fit within cultures dominated by males, being excluded from informal interactions where critical information was shared, not receiving appropriate mentoring, lack of critical developmental assignments that leads to advancement, more reliance upon formal processes for promotional opportunities (Van Velsor & Hughs, 1990), and not being allowed chances for mobility geographically (Adler, 1984). Theories on facilitators to career advancement are derived from studies involving female executive participants (Lyness & Thompson, 2000). They include having a good track record of accomplishments (Mainnero, 1994), the development of social relationships, proactive measures in setting own career goals, taking on challenging assignments, and taking risks (Catalyst, 1996).

Human capital in its simplest definition is a way of categorizing people's skills and abilities in employment situations. The concept was first introduced by Pigou (1928), a British economist, in the early 1900s. Pigou proposed that as with material capital, there should be investments in human capital. Today's concept of human capital is derived from the work of Mincer (1958) and Becker (1964). Human capital was analogous to means of physical production. Individuals may choose to invest in their own education, training, and experience. This investment in human capital is expandable and continues to generate the more it is used. Human capital such as knowledge can be transferred and shared with others.

Based on the recommendation for future study resulting from the review of the literature and the theoretical framework guiding this study, research questions and hypotheses are generated in this study about relationships among human capital assets, demographic characteristics, procedural justice, distributive justice, perceived barriers to



career advancement, and perceived facilitators to career advancement, and attainment of leadership positions in local and county law enforcement organizations in Florida.

### **Research Questions**

1. What are the human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, facilitators and barriers of career advancement, and attainment of leadership positions in local and county law enforcement organizations in the State of Florida?

2. Are there difference in human capital assets, demographic characteristics, procedural justice, distributive justice, perceived facilitators and barriers of career advancement, and the attainment of leadership positions according to organizational characteristics of local and county law enforcement organizations in the State of Florida?

### **Research Hypotheses**

1. African-American women perceive significantly less procedural justice, less distributive justice, fewer facilitators, and greater barriers to career advancement, and attain fewer local and state law enforcement leadership positions than other racial and gender groups.

H<sub>1a</sub>: Women perceive significantly less procedural justice, less distributive justice, fewer facilitators and greater barriers to career advancement, and attain fewer leadership positions in local and state law enforcement organizations than men.

H<sub>1b</sub>: African Americans perceive significantly less procedural justice, less distributive justice, fewer facilitators and greater barriers to career advancement, and attain fewer leadership positions in local and state law enforcement than other racial and ethnic groups.

H<sub>1c</sub>: There will be higher perceptions of procedural justice, distributive justice, facilitators to career advancement, fewer barriers to career advancement, and more leadership positions in local and state law enforcement organizations as follows: White males>African-American males>White females>African-American female groups.

2. Human capital assets are significant explanatory variables of attainment of local and county law enforcement leadership positions in Florida.

3. Procedural justice, distributive justice, and facilitators and barriers of career advancement, are significant explanatory variables of attainment of leadership positions in local and county law enforcement organizations in Florida

4. Organizational characteristics are significant explanatory variables of attainment of leadership positions in local and county law enforcement organizations in Florida.

5. Demographic characteristics are significant explanatory variables of attainment of leadership positions in local and county law enforcement organizations in Florida.

6. Human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and facilitators and barriers of career advancement are significant explanatory variables of attainment of leadership positions in local and county law enforcement organizations in the State of Florida.

The hypothesized model in Figure 2-1 represents the proposed relationships between human capital characteristics, demographic attributes, organizational characteristics, procedural justice, distributive justice, perceived barriers and facilitators to career advancement and the attainment of leadership positions in local and county law enforcement organizations in the State of Florida.

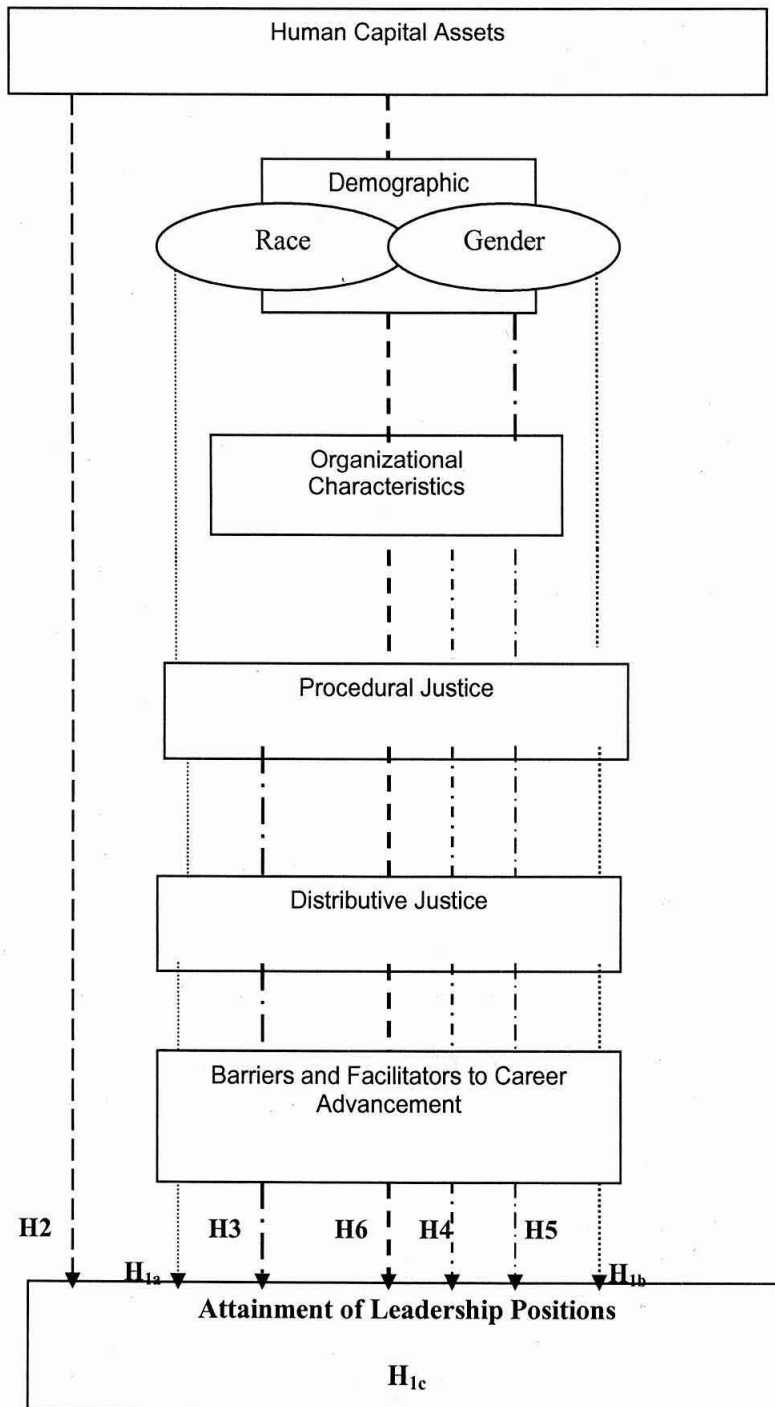


Figure 2-1. Hypothesized model tested in this study

In Chapter II, a review of the empirical, theoretical, and methodological literature pertaining to the glass ceiling effect, perceived justice and barriers and facilitators to the attainment of leadership positions was presented. The critical analysis of this literature identified a gap as it relates to the study of the double impact of race and gender, human capital assets, organizational characteristics, perceptions of procedural justice, perceptions of distributive justice, and barriers and facilitators to career advancement specifically in state and local law enforcement. This literature gap is the impetus for this particular study. A theoretical framework to guide this study was developed. Research questions were created to be answered, and research hypotheses were developed to be tested. The research methods for this study are specified in Chapter III.

### **CHAPTER III: RESEARCH METHODS**

Research methods used to answer research questions are presented in this chapter.

The methods were used to investigate the hypothesized relationships among human capital assets, demographic characteristics, organizational characteristics, distributive justice, procedural justice, perceived facilitators to advancement, perceived barriers to advancement, and the attainment of leadership positions in state and local law enforcement are presented in this chapter. There are six sections, including the research design, population, sampling plan, setting, instrumentation, procedures for data collection, ethical considerations of human subjects, methods of data analysis, and evaluation of research methods.

#### **Research Design**

A quantitative, nonexperimental, exploratory (comparative) and explanatory (correlational) online survey design was used to ask questions of officers in 75 local and county law enforcement organizations in the State of Florida. This design was used to answer research questions and test the hypotheses presented in the study. A descriptive research design was used to describe characteristics of the sample in terms of all study variables in Research Question 1. Research Question 2 was tested using a comparative research design, exploring differences in human capital assets, demographic characteristics, perceived procedural justice, perceived distributive justice, perceived barriers to career advancement, perceived facilitators to career advancement, and attainment of leadership positions in local and state law enforcement organizations according to organizational characteristics.

Hypothesis 1 tested the differences in perceived procedural justice, perceived distributive justice, perceived barriers to career advancement, perceived facilitators to career advancement, and attainment of leadership positions in local and state law enforcement organizations according to gender and racial groupings. The explanatory (correlational) research design examined different explanatory relationships among human capital assets, demographics characteristics, organizational characteristics, perceived distributive justice, perceived procedural justice, perceived barriers to career advancement, perceived facilitators to career advanced, and the attainment of leadership positions (Research Hypotheses 2 through 6).

A six part, 73-item self-report online survey instrument (see Appendix A) was used. Part 1 of the survey, *Human Capital Assets and Attainment of Leadership Positions*, was developed by the researcher. *Human Capital Assets* are measured by five items. They included (a) highest educational level achieved, (b) level of advanced training in law enforcement, (c) experience in years, (d) level of knowledge, and (e) tenure in current organization. *Attainment of Leadership Positions* is measured by one item with six ranked job titles as response categories. *Human Capital Assets* are the explanatory variables in Hypotheses 2 through 6. Attainment of leadership positions is the dependent variable in all hypotheses.

Part 2 of the survey, *Demographic Characteristics* include attribute variables of race, ethnicity, gender, and age. They are measured by a profile developed by the researcher. In Hypothesis 1 and 1<sub>a</sub> gender is the attribute (causal) variable. In Hypothesis 1 and 1<sub>b</sub> race is the attribute (causal) variable. In Hypothesis 1 and 1<sub>c</sub> both race and

gender are combined in groups as attribute (causal) variables for comparisons. In Hypotheses 5 and 6 all demographic variables are explanatory variables.

In Part 3 of the survey, the explanatory variable *Organizational Characteristics* is measured by four items developed by the researcher. The items include organizational size, state or local affiliation, union affiliation, and promotional process. *Organizational Characteristics* are explanatory variables in Hypotheses 4, 5, and 6.

Procedural and distributive justice is measured in two parts of the survey. In Part 4, *Procedural Justice* is measured by six items from Moorman's (1991) *Procedural and Interactional Justice Scale* (1998). In Part V, *Distributive Justice* is measured by six items from Sorensen's (1985) job equity scale known as the *Distributive Justice Index*.

The last section of the survey was two parts, *Perceived Barriers and Facilitators to Career Advancement*. In Part 6a, *Perceived Barriers to Career Advancement* is measured by Lyness and Thompson's (2000) *Perceived Barriers to Advancement Scale*. In Part 6b, *Perceived Facilitators to Career Advancement* is measured by the *Perceived Facilitators to Advancement Scale* developed by Lyness and Thompson. Procedural justice, distributive justice, and barriers and facilitators to career advancement are dependent variables in Hypothesis 1 and they are explanatory variables in Hypotheses 3 to 6.

Descriptive statistics were used to answer Research Question 1 to describe the characteristics of samples in terms of all variables. Analysis with independent *t* tests, chi-square, and analysis of variance (ANOVA) with post hoc comparisons were used to answer Research Question 2 (comparisons according to organizational characteristics). Multiple independent *t* tests were used for gender comparisons to test Hypothesis 1<sub>a</sub>.

Multiple ANOVA tests with post hoc comparisons using Dunnett's test were used for racial category comparisons to test Hypothesis 1<sub>b</sub> and combined gender and racial categories to test Hypothesis 1<sub>c</sub>. Multiple regression analyses were used to test Hypotheses 2 through 6.

## **Population, Sampling Plan, and Setting**

### ***Target Population***

The target population consisted of an estimated 2,500 sworn officers in leadership positions in state and local law enforcement agencies employing more than 100 law enforcement officers in the State of Florida. Agencies containing the target population were identified from the FBI's *Crime in the United States* (2004) publication. Addresses and telephone numbers for each agency were obtained via the *Florida Blue Book* (2006), a directory of local, county, state, and federal law enforcement agencies. Those in leadership positions must occupy the ranks of sergeant, lieutenant, captain, commander, major, assistant chief or chief executive officer (or their equivalent). The 75 agencies in the state of Florida employing 100 or more sworn officers have a total number of 27,875 sworn law enforcement officers (U.S. Department of Justice, 2004). According to the U.S. Department of Justice Federal Bureau of Investigations (2005), approximately 9% of sworn law enforcement officers are assigned to command level positions in the U.S. This is based on span of control (the actual number of commanders needed to effectively supervise a given number of sworn officers). This estimate is applied to the state of Florida and resulted in the estimated target population of 2,500 sworn officers in leadership positions based on an estimated 9% of 27,875 sworn law enforcement officers in Florida.



### *Accessible Population*

A list of Florida state and local law enforcement organizations with 100 or more sworn law enforcement officers was obtained from the U.S. Department of Justice (2004). Each agency was contacted using the *Florida Blue Book: Law Enforcement Directory* (2006), which contains contact information for each of these 75 agencies including addresses and telephone numbers (see Appendix D).

A public records request via U.S. mail was made to each agency head to obtain a list of e-mail addresses of those individuals in leadership positions from whom data would be obtained. The purpose of the research was explained to each department head at the time of the initial contact. The list of individuals who met the eligibility requirements was less than the estimated 2,500 law enforcement officers that constituted the target population.

Each of the estimated 2,500 law enforcement officers in leadership positions received an individual, customized survey invitation (see Appendix G) via e-mail with a link to the authorization for voluntary consent form (see Appendix C) and a link to the survey (see Appendix G). The content of the e-mail included the invitation to complete the online survey and the link to the authorization for voluntary consent and online survey. Respondents were asked to copy and paste the link into a browser. The e-mail was sent by using the Blind Carbon Copy (Bcc) feature. The e-mail invitations were sent without attachments and in plain text format. Because the researcher did not know who responded, a follow-up e-mail was sent to the initial wave of eligible participants.

### ***Sampling Plan***

All officers in the accessible population of sworn law enforcement officers in leadership positions at 75 law enforcement organizations with 100 or more sworn law enforcements were invited to participate in the survey. A sampling plan was not designed to select the law enforcement officers. However, the final data producing sample consisted of those Florida law enforcement officers in leadership position in agencies with 100 or more sworn law enforcement officers.

### ***Eligibility Criteria***

This study focuses on the relationships between of human capital assets, demographic characteristics, organizational characteristics, perceived procedural justice, perceived distributive justice, perceived barriers to career advancement, and perceived facilitators to career advancement and the attainment of leadership positions to either chief executive officer, assistant chief, major, commander, captain , lieutenant, and sergeants, or equivalent.

1. The participants in the online survey had to be 19 years or older, the mandatory age established by the Criminal Justice Training and Standards Commission for the State of Florida to become a certified officer in the State of Florida (Criminal Justice Standards and Commission, 2007).

2. Officers in supervisory and command level positions in law enforcement organizations employing more than 100 officers (sergeant level or higher).

3. Law enforcement officers employed in law enforcement organizations in Florida.

4. Participants are restricted to those officers in supervisory positions that are classified as command level positions. These positions include those officers holding the rank of sergeant, lieutenant, captain, major, assistant chief, and chief executive officer or their equivalent.

5. Participants must be certified via the state of Florida.

6. Participants are those officers whose e-mail addresses were provided by their agency head.

7. Participants must be fulltime officers.

8. Participants must be able to read and write in English.

### ***Exclusion Criteria***

1. Law enforcement officers who are not in command level or supervisory positions, defined as those who do not hold the rank of sergeant or higher.

2. Law enforcement officers who work for law enforcement agencies that are not local or state (i.e., federal law enforcement agencies).

3. Law enforcement officers who are employed by agencies with fewer than 100 sworn law enforcement officers.

4. Law enforcement officers who are classified as reserve or auxiliary.

5. The participants who are not 19 years or older.

6. Participants who are not able to read and write in English.

### ***Sample Size***

Two considerations were made to determine the sample size needed for this study. The first was to determine the sample size needed to conduct the data analysis using multiple regression analysis and exploratory factor analysis. The second consideration

was to determine the sample size needed based on the target population size for the purpose of strengthening the external of the study. For data analysis, the sample size needed for this study is taken from Green's (1991) estimate of a sample size for multiple regression analysis:  $n$  (sample size) =  $50 + 8(m)$ , where  $m$  is the number of explanatory variables. Hypothesis 6 has the most explanatory variables in this study with 26 (see Table 3-1). Therefore, the minimum sample size needed to conduct multiple regression analysis is  $n = 50 + 8(26) = 258$ .

Table 3-1

*Explanatory Variables in Hypothesis 6*

Type of variables	Items
Human capital assets	5
Organizational characteristics	4
Demographic characteristics	4
Perceived distributive justice	1
Perceived distributive justice	1
Facilitators to career advancement	5
Perceived barriers to career advancement	6

For exploratory factor analyses, the sample size needed should be "3 to 20 times the number of items in a given scale with absolute ranges from 100 to over 1000" (Lawrence Erlbaum Associates, 2006b, Abstract section, 1). The longest scale, with 47 items, is the *Perceived Barriers to Career Advancement Scale* and *Perceived Facilitators*

to *Career Advancement Scale*. Thus, 3(47) to 20(47) results in a minimum of 141 to a maximum of 940 for the sample size to conduct EFA.

For the estimated 2,500 law enforcement officers that constituted the target population, the sample size needed is 341. Beyond a population of 5,000, an adequate sample size is 400, "but would be even more confident with a sample of 500" (Gay & Airasaub, 2000, p. 135). Thus, considering the sample size needed for statistical analyses and based on the size of the population, a range of 258 to 341 would result in an adequate sample size. Based on a response rate of 10% and 2,500 surveys distributed, the estimated data producing sample is 250, which is less than adequate. A 15% response rate would produce an adequate sample sized of 375, and a 20% response rate would produce an optional sample size of 500.

### ***Setting***

The setting for this study was conducted in Florida. The respondents belonged to one of the 75 law enforcement agencies employing more than 100 sworn officers. However, because this was an online survey, participants completing the survey may have done so at their respective organizations' offices or possibly at home.

### **Instrumentation**

This study used a six-part survey. The six parts included human capital assets and attainment of leadership positions, demographics characteristics, organizational characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career advancement. There were 73 questions and it took approximately 20 minutes to complete. This research was conducted electronically via a website with a follow up by e-mail reminder.

### ***Part 1: Human Capital Assets and Attainment of Leadership Positions***

Part 1 of the survey was developed by the researcher, and contains six fill in the blank or multiple choice items organized by *Human Capital Assets* and the dependent variable of *Attainment of Leadership Positions*. Human capital assets include highest educational level achieved, level of advanced training, law enforcement years of experience, level of knowledge (basic, moderate, above average, advanced), and number of years within organization (tenure). The dependent variable of leadership attainment is measured by one multiple choice question that ranks positions ranging from sergeant to chief executive officer (see Appendix A, Part 1).

### ***Part 2: Demographic Characteristics***

*Demographic Characteristics* of those in leadership positions in local and state law enforcement consists of four items which are race, ethnicity, gender, age in years. Race and ethnicity items were based on the U.S. Census Bureau, Population Division, Special Population Staff (2000). Age and gender questions were developed by the researcher (see Appendix A, Part 2).

### ***Part 3: Organizational Characteristics***

*Organizational Characteristics* of each law enforcement organization is measured in Part 3 with four multiple choice and dichotomous items. These include: organization size (number of sworn law enforcement officers), state or local affiliation (municipal, county or state), union affiliation (union, none union), and promotional process (promotion or appointment). This part of the survey was developed by the researcher (see Appendix A, Part 3).

#### ***Part 4: Procedural Justice***

Moorman (1991) developed a measure of *Procedural Justice* (the perceived fairness of the process by which decisions are made) as part of his *Procedural and Interactional and Justice Scale*. The items used to measure procedural justice were based on models already developed (Greenberg, 1988; Tyler & Bies, 1990; Leventhal, 1980). Items developed to measure the perceptions of the fairness of the interactions (interactional justice) specifically focused on interpersonal actions of supervisors when making decisions (see Appendix A, Part 4).

The Procedural and Interactional Justices Scale has a total of 12 items. There are six items that measure *procedural justice* and six items that measure interactional justice. Only the six items which measure *Procedural Justice* were used in this study because procedural justice rather than interactional justice have been used to uncover perceptions of the glass ceiling effect in previous studies (Tai & Sims, 2005). Procedural justice has been used independent of interactional justice measures, which are a separate dimension, in other studies (Leventhal, 1980).

Response categories are based on a seven point Likert scale where 1= strongly disagree, 2=moderately disagree, 3= slightly disagree, 4= neither Agree nor Disagree, 5= Slightly Agree, 6= Moderately Agree, and 7= Strongly Agree. There are no reverse scored items. This research used six items of the scale related to procedural justice and not interactional justice. Higher scores are associated with better perceptions of procedural justice. For the six items, the score range is 6 to 42. Items included in the scale are related to bias suppression, correctability, accuracy, representativeness, ethicality, consistency and representativeness (Moorman, 1991). The mean and standard deviations

for the procedural justice scale from Moorman's study was 3.88 and 1.37 respectively based on a combined sample of 225.

The internal consistency reliability (Cronbach's alpha) for Moorman's (1991) *Procedural Justice Scale* was .94. In a study by Francis and Barling (2005) an estimate of reliability of the same scale was  $\alpha = .95$  using Cronbach's Alpha which showed acceptable internal consistency. This is above .70 which is the established minimum (Nunnally, 1978). Cronbach's alpha of the *Procedural Justice* scale was examined for this study to estimate internal consistency reliability with this study's sample.

Overall confirmatory factor analysis for Moorman's (2001) *Procedural Justice* scale showed both convergent and discriminate validity (subtypes of construct validity) of latent variables in the study. The results were completely standardized. Loadings on organizational justice for each item was .67, .80, .84, .87, .90, and .89 respectively. In this study, exploratory factor analysis was conducted for the *Procedural Justice* scale to ensure its unidimensionality and further establish construct validity.

### ***Part 5: Distributive Justice***

*Distributive justice* refers to the outcome of a decision in employment. An employee perceives the outcomes to be fair when the outcomes are equivalent to the amount of input (Cobb, 2001). Tai and Sims (2005) adopted Sorensen's (1985) job equity scale for their study of *The Perception of the Glass Ceiling in High Technology Companies* which contained six items to address job distributive justice using the *Distributive Justice Index* (see Appendix A, Part 5). The Distributive Justice Index is most commonly presented in the *Handbook of Organizational Measurement* (Price & Mueller, 1986).



One item contained in the index which utilizes a five point rating scale, for example, asks "To what extent are you fairly rewarded considering the responsibilities that you have? The five categories of response for each item are 1 (*Very Unfairly*) 2 (*Unfairly*), 3 (*Undecided*), 4 (*Fairly*), and 5 (*Very Fairly*). The score range is 6 to 30 for the six items. Higher scores are associated with better perceptions of *Distributive Justice*.

In the Tai and Sims (2005) study there was a response rate of 45% percent representing 318 participants. Fifty-six percent were returned by male employees and 44% by female employees. The mean age was 36 years with a standard deviation of 8.6.

Cronbach's alpha for Tai and Sim's (2005) study was 0.82. Previous research as reported by Tai and Sims in their 1989 study revealed alphas of 0.95 and 0.94. These estimates of internal consistency reliability are within an acceptable range. Cronbach's alpha of the *Distributive Justice* scale was conducted for this study to estimate internal consistency reliability with this study's sample.

Exploratory factor analysis for the *Distributive Justice* scale showed high factor loading values for each item on one factor associated with justice, and all were greater than 0.80. Communalities (the proportion of common variance present in each variable) representing the multiple correlation between each variable and the factors extracted were calculated. The lowest communality was 0.689 and the highest was 0.884 (Sorensen, 1985). In this study, principle component analysis was conducted on the scale for the purposes of further confirming the unidimensional nature of the scale for this study.

## ***Part 6: Barriers and Facilitators to Career Advancement***

### ***Part 6a: Perceived Barriers to Career Advancement***

This study used a measure of *Perceived Barriers to Career Advancement* adopted from models by Lyness and Thompson (2000). The *Perceived Barriers to Career Advancement* scale has 26 items with a 5-point response structure where 1 (*no problem at all*), 2 (*a slight problem*), 3 (*a moderate problem*), 4 (*almost a serious problem*), and 5 (*a very serious problem*). The scale is organized into six subscales. Respondents rated each of the 26 items on whether the item has been a problem in their personal career advancement. The total range of scores for the perceived barriers to career scale is 26 to 130 where higher scores are associated with more barriers to career advancement. The scale is not counterbalanced with positive and negatively worded items. All items represent a barrier to career advancement therefore; there is no need to reverse score items.

For the perceived barriers scale, items are organized into six subscales: Lack of Culture Fit (seven items, score range 7 to 35), Excluded From Informal Networks (two items, score range is 2 to 10), Lack of Mentoring (four items, score range is 4 to 20), Poor Organizational Career Management Processes (three items, score range is 3 to 15), Difficulty Getting Developmental Assignments (seven items, score range is 7 to 35), and Difficulty Obtaining Opportunities for Geographic Mobility Opportunities (three items, score range is 3 to 15).

Coefficient alphas for each sub scale of *Perceived Barriers to Career Advancement* ranged from .69 to .84, with Difficulty Getting Geographic Mobility Opportunities having the lowest and Difficulty Getting Developmental Assignments

having the highest (Lyness & Thompson, 2000). In the present study, coefficient alphas were estimated for the *Perceived Barriers to Career Advancement* subscales and total scale.

Exploratory factor analysis was not reported in the Lyness and Thompson (2000) study. In this study, however, exploratory factor analysis was conducted for the *Perceived Barriers to Career Advancement* scale to examine its multidimensionality and establish construct validity. In addition, divergent validity was established by correlating the *Perceived Barriers to Career Advancement* (higher barrier scores are associated with more problems in career advancement) and *Perceived Facilitators to Career Advancement* (higher facilitators scores are associated with more facilitators to career advancement). Therefore, an inverse relationship is expected.

#### ***Part 6b: Perceived Facilitators to Career Advancement***

This study used a measure of The *Perceived Facilitators to Career Advancement* adopted from models by Lyness and Thompson (2000). The *Perceived Facilitators to Career Advancement* scale contains 21 items. Respondents rate perceived facilitators to their personal career advancement within an organization with a 5-point response structure as 1 (*not a facilitator*), 2 (*a slight facilitator*), 3 (*a moderate facilitator*), 4 (*a somewhat important facilitator*), and 5 (*a very important facilitator*). Items are organized into five subscales: Developing Relationships (four items, score range is 4 to 20), Managing Own Career (four items, score range is 4 to 20), Mentoring (eight items, score range is 8 to 40), Developmental Assignments (four items, score range 4 to 20), and Having a Good Track Record, a single item subscale (score range 1-5).

The total range of scores for the *Perceived Facilitators to Advancement* scale is 21 to 105, where lower scores are associated with fewer facilitators to career advancement. The scale is not counterbalanced with positive and negative worded items. All items are positively worded; therefore, there is no need to reverse score items. Higher scores indicate more facilitators to career advancement.

Coefficient alphas for each subscale of *Perceived Facilitators to Career advancement* scale ranged from .70 (Developing Relationships) to .90 (Mentoring) (Lyness & Thompson, 2000). In this present study, coefficient alphas were estimated for the *Perceived Facilitators to Career Advancement subscales* and total scale. Exploratory factor analysis was not reported in the Lyness and Thompson study. In this present study exploratory factor analysis was conducted for the *Perceived Facilitators to Career Advancement Scale* to examine its multidimensionality and establish construct validity. In addition, divergent validity was established by correlating the *Perceived Barriers to Career Advancement* (higher barrier scores are associated with more problems in career advancement) and *Perceived Facilitators to Career Advancement* (higher facilitators scores are associated with more facilitators to career advancement). Thus, an inverse relationship was expected.

### **Procedures: Ethical Considerations and Data Collection Methods**

This section describes ethical considerations that were taken to protect all participants and the data collection process to be used in this study.

1. The following documents were prepared for the dissertation proposal, defense, and review.

- (a) Online survey (Appendix A)

- (b) Survey Monkey policies and agreements (Appendix B)
- (c) Authorization for voluntary consent online (Appendix C)
- (d) List of 75 law enforcement agencies in the State of Florida with 100 or more sworn law enforcement officers (Appendix D)
- (e) Letter to chief executive officers of police of 75 agencies informing them of future online survey involving their agency and requesting e-mail addresses of eligible participants (Appendix E)
- (f) All permissions to use scales from copyright holders (Appendix F)
- (g) E-mail invitation to potential participants with link to informed consent and survey (Appendix G)

2. Permissions to use instruments in the survey for this study were obtained from copyright holders before IRB application submission and data collection. Three requests for permission were sent to the original developers of instruments by Lynn University Student e-mail (see Appendix F). Permission to reprint the entire *Perceived Barriers and Facilitators to Career Advancement* scales in a published dissertation was not granted by the author.

3. A letter was sent to the respective chiefs of police of the 75 law enforcement organizations in the State of Florida identified in the study, for permission allowing members of the agency to participate. Agency e-mail addresses were obtained from the *Florida Law Enforcement Blue Book* (2006). The letter informed them of the purpose of the study and indicated if they agreed to be participating agencies, upon IRB approval, they would be contacted for the email addresses of officers in leadership position (see Appendix E).

4. An online survey was created and placed on a survey website called SurveyMonkey.com. This site contained a link to the “Authorization for Voluntary” consent information and a link to the survey. Voluntary consent information includes directions, purpose of the research, procedures for completing the survey, possible risks and benefits and statements related to confidentiality and anonymity. Anonymity was maintained to the degree permitted by the technology used. The website was not accessible until approval was received from the Lynn University Institutional Review Board (see Appendix A).

5. Membership costs for SurveyMonkey.com is \$19.99 monthly. An additional fee of \$9.95 was paid for SSL encryption to encrypt both the survey link and the survey pages during transmission. SurveyMonkey.com privacy policy indicates they do not use data for their own purposes. Collected data was kept private and confidential (see Appendix B).

6. Following a successful proposal defense, an application for expedited review was submitted to the Institutional Review Board (IRB) of Lynn University for approval.

(a) IRB Form 1, Application and Protocol, was submitted to the Lynn University Institutional Review Board.

(b) IRB Form 3, Request for Expedited Review, was submitted to the IRB.

(c) A request was made to the IRB to waive documentation of a signed consent because it was the only identifier. Evidence of authorization for informed consent was by the participant’s submission of the survey (see Appendix C).

(d) Upon receiving approval from the IRB, a letter via US mail was sent to the chief executive officers of each agency explaining the purpose of the research and requesting the e-mail addresses of eligible participants (see Appendix E).

7. Data collection took place in the following stages:

(a) The survey went live immediately upon receipt of the email addresses from the chief executive officers.

(b) E-mail addresses were kept confidential.

(c) A customized survey invitation was sent to the e-mail addresses of officers in leadership positions (see Appendix G). The content of the email included the invitation to do the online survey, a link to the authorization for voluntary consent, and the online survey. Respondents were asked to click on the link or copy and paste the link into their browser.

(d) The e-mail was sent using the Blind Carbon Copy (Bcc) format so that participants did not know who else received the invitation. The e-mail was sent without attachments, from a personal e-mail address to prevent any viruses or blocking by recipients' mail servers.

(e) The SurveyMonkey.com e-mail List Management tool was not used to ensure anonymity of respondents.

(f) Potential participants read the authorization for voluntary consent before beginning the survey. If participants were in agreement with the consent form, they had to click the "I agree" button. This directed the participants to a secure webpage that contained the survey instrument (see Appendix A).

8. The researcher recorded the number of potential participants (number of e-mails sent) and the actual number of responses and calculated a response rate.

9. Data collection lasted for 2 months.

10. All participants were anonymous to the researcher and data were reported as group responses. The website did not record e-mail addresses or personal identification information.

11. SurveyMonkey.com survey closed 2 months after data collection began.

12. Several months after data collection was complete, the researcher submitted a Report of Termination of Project to the Lynn University IRB.

13. The collected data were accessible in a summary form for 90 days after the survey was closed. After this time it was archived and kept secure by SurveyMonkey. Data will be destroyed after 5 years by SurveyMonkey.

14. The data collected were imported into a SPSS spreadsheet and saved electronically in a personal computer with security (requiring a password and identification). The data will be destroyed after 5 years.

Based on the following reasons this research study was regarded as ethical:

1. An IRB application and protocol were submitted for an expedited review.

2. Approval from Lynn University's IRB ensured that this study adhered to the necessary procedures that protect human subject participants pursuant to the *Code of Federal Regulations*, Title 45 CFR Part 46.

3. E-mail addresses of potential participants were held confidential by the researcher.



4. The researcher was not able to identify any of the participants and anonymity was maintained.

5. Payment was made to SurveyMonkey.com for SSL encryption of both the survey link and the survey pages during transmission. SurveyMonkey.com's privacy policy indicated they do not use data for their own purposes. Collected data were kept private and confidential. After data collection, data were archived and kept secure.

6. The research involved no more than minimal risk to the participants.

7. The research did not involve deception and did not employ sensitive populations.

8. Participants were informed and provided an explanation of the purpose of the study, procedures, and consent information aims to ensure that participation was voluntary.

9. All data obtained in this study were stored electronically. Computers containing the data are protected by passwords. There were no paper copies.

10. The IRB was notified when the study ended.

11. All data will be destroyed 5 years after completion of the study.

### **Data Analysis**

Statistical Package for Social Sciences (SPSS) version 14 was used by the researcher to answer research questions, test hypotheses, and provide psychometric assessments of the reliability and validity of scales. Internal consistency reliability, exploratory factor analysis, descriptive statistics, Pearson  $r$  and point-biserial correlation, independent  $t$  tests, Chi-Square, ANOVA with post hoc comparisons, and stepwise

multiple regression analyses were used in this study. Before data analysis began, the following steps were taken:

1. Data Coding: All data collected were assigned numeric values for each level of the variables.

2. Exploratory data analysis: Descriptive statistics were computed to determine problems within the data and to check the statistical assumptions of parameters which were used in the study.

3. Internal consistency reliability: Scales and subscales used in the survey containing multiple items with multiple-point ratings were examined for internal consistency reliability. Cronbach's coefficient alphas reliability estimates of 0.70 or higher for each scale indicated satisfactory reliability.

4. Exploratory factor analysis: Exploratory factor analysis was used to identify the underlying factors influencing the outcome of measurable response variables (Lu, 2005). Exploratory factor analysis was used to explore the correlation among measurable variables and to determine whether the relationship could be summarized in a smaller number of factors. Factor analysis examined the unidimensionality and multidimensionality of the scales to establish construct validity.

5. Convergent and divergent validity of select scales were examined.

### ***Methods of Data Analysis for Research Questions***

Descriptive statistics were used to answer Research Question 1. Measures of central tendency, frequency distributions, and variability were obtained to determine characteristics of the variables human capital assets and leadership positions,

demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceiver barriers and facilitators to career advancement.

For Research Question 2, to compare differences in the human capital asset, level of advanced training, and the demographic characteristics of race, ethnicity, and gender according to organizational characteristics of size, state or local affiliation, union affiliation, promotional process chi-square tests were used. To compare differences in the human capital assets of education, law enforcement experience in years, knowledge, tenure in current organization, rank, the demographic characteristics of age, perceived procedural justice, perceived distributive justice, perceived facilitators to career advancement (five subscales measuring having a good track record, managing own career, developing relationships, mentoring, and developmental assignments and perceived barriers to career advancement (six subscales measuring lack of culture fit, exclusion from informal networks, lack of mentoring, poor organizational career management processes, difficulty getting developmental assignments, and difficulty obtaining opportunities for geographic mobility) according to organizational characteristics of union affiliation and promotional process, independent *t* tests were performed.

To compare differences in the human capital assets of education, experience, tenure in the organization, knowledge level, rank, the demographic characteristic of age, perceived procedural justice, perceived distributive justice perceived barriers to career advancement (six subscales), and perceived facilitators to career advancement (five subscales) according to the organizational characteristics of size and government affiliation independent *t* and chi-square tests were performed.

### ***Methods of Data Analysis for Hypothesis Testing***

For Research Hypothesis 1<sub>a</sub>, to compare differences in perceived procedural justice, perceived distributive justice, perceived barriers to career advancement (six subscales measuring lack of culture fit, exclusion from informal networks, lack of mentoring, poor organizational career management processes, difficulty getting developmental assignments, and difficulty obtaining opportunities for geographic mobility), perceived facilitators to career advancement (five subscales measuring having a good track record, developing relationships, managing own career, mentoring, and developmental assignments), and attainment of leaderships positions according to the demographic characteristic of gender (male or female) independent *t* tests (categorical attribute variables and scaled scores for dependent variables) were used.

For Research Hypothesis 1<sub>b</sub>, to compare differences in perceived procedural justice, perceived distributive justice, perceived barriers to career advancement (six subscales), perceived facilitators to career advancement (five subscales) and the attainment of leaderships positions according to the demographic characteristic of race, ANOVA tests with post hoc comparison were performed.

For Research Hypothesis 1<sub>c</sub>, to compare differences in perceived procedural justice, perceived distributive justice, perceived barriers to career advancement (six subscales) perceived facilitators to career advancement (five subscales), and attainment of leaderships positions according to the demographic characteristics of the racial and gender groups (White male, White female, Black male, and Black female), ANOVA tests with post hoc comparisons were performed.

For Research Hypotheses 2 thru 6, separate multiple regression analysis (stepwise) were conducted to examine whether significant explanatory relationships existed among human capital assets, demographic characteristics, organizational characteristics, perceived procedural justice, perceived distributive justice, perceived barriers to career advancement, and perceived facilitators to career advancement, and the attainment of local and state law enforcement positions. Notations used to test the variables in the regression model for the hypotheses in this study follow.

Y=Attainment of leadership positions (rank)

Human Capital Assets

- X<sub>1</sub>= Highest Education Level Achieved
- X<sub>2</sub>= Level of Advanced Training
- X<sub>3</sub>= Law Enforcement Experience in Years
- X<sub>4</sub>= Knowledge
- X<sub>5</sub>= Number of Years (Tenure) in Current Position

Demographic Characteristics

- X<sub>6</sub>= Race
- X<sub>7</sub>= Ethnicity
- X<sub>8</sub>= Gender
- X<sub>9</sub>= Age

Organizational Characteristics

- X<sub>10</sub>= Size of Organization
- X<sub>11</sub>= State or Local Affiliation
- X<sub>12</sub>= Union Affiliation
- X<sub>13</sub>= Promotional Process

Procedural Justice

- X<sub>14</sub>= Procedural Justice

Distributive Justice

- X<sub>15</sub>= Distributive Justice

Perceived Barriers to Career Advancement

- X<sub>16</sub>=Lack of Culture Fit
- X<sub>17</sub>= Excluded From Informal Networks
- X<sub>18</sub>= Lack of Mentoring
- X<sub>19</sub>= Poor Organizational Career Management Processes
- X<sub>20</sub>= Difficulty Getting Developmental Assignments
- X<sub>21</sub>= Difficulty Obtaining Opportunities for Geographic Mobility

Perceived Facilitators to Career Advancement

- X<sub>22</sub> Having a Good Track Record
- X<sub>23</sub>= Developing Relationships

X<sub>24</sub>= Managing Own Career

X<sub>25</sub>= Mentoring

X<sub>26</sub> Developmental Assignments

B<sub>0</sub>= Constant

ε<sub>1</sub>= error

For Research Hypothesis 2, that human capital assets (educational level, level of advanced training, law enforcement experience, knowledge, tenure in current position, and rank) are significant explanatory variables of attainment of local and state law enforcement positions in the State of Florida. The notation for the regression model tested is:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + \varepsilon_1$$

For Research Hypothesis 3, that perceived procedural justice, perceived distributive justice, and perceived barriers and facilitators to career advancement are significant explanatory variables of the attainment of leadership positions in local and state law enforcement organizations in the state of Florida, the notation for the regression model tested is:

$$Y = b_0 + b_{15}X_{15} + b_{16}X_{16} + b_{17}X_{17} + b_{18}X_{18} + b_{19}X_{19} + b_{20}X_{20} + b_{21}X_{21} + b_{22}X_{22} + b_{23}X_{23} + b_{24}X_{24} + b_{25}X_{25} + b_{26}X_{26} + b_{27}X_{27} + \varepsilon_1$$

For Research Hypothesis 4, that organizational characteristics (organization size, state or local affiliation, union affiliation, promotional process) are significant explanatory variables of the attainment of leadership positions in local and state law enforcement organizations in the State of Florida, the notation for the regression model to test hypothesis 4 is as follows:

$$Y = b_0 + b_{11}X_{11} + b_{12}X_{12} + b_{13}X_{13} + b_{14}X_{14} + \varepsilon_1$$

For Research Hypothesis 5, that demographic characteristics (race, ethnicity, gender, and age) are significant explanatory variables of the attainment of leadership

positions in local and state law enforcement in the State of Florida, the notation for the regression model is as follows:

$$Y=b_0+b_7X_7+b_8X_8+b_9X_9+b_{10}X_{10}+\varepsilon_1$$

For research Hypothesis 6, that human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career advancement are significant explanatory variables of attainment of leadership positions in local and state law enforcement organizations in the State of Florida. The notation for the regression model to test hypothesis 6 is as follows:

$$Y= b_0+ b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6+ b_7X_7+b_8X_8+b_9X_9+b_{10}X_{10}+b_{11}X_{11}+b_{12}X_{12}+b_{13}X_{13}+b_{14}X_{14}+b_{15}X_{15}+b_{16}X_{16}+b_{17}X_{17}+b_{18}X_{18}+b_{19}X_{19}+b_{20}X_{20}+b_{21}X_{21}+b_{22}X_{22}+b_{23}X_{23}+b_{24}X_{24}+b_{25}X_{25}+b_{26}X_{26}+\varepsilon_1$$

In order to identify variables to enter into the regression models, Pearson *r* and point-biserial correlations were examined for a significant or trend relationship between each explanatory variable and the dependent variable prior to conducting multiple regression analyses. Furthermore, initial analysis of regression models included examining the variance inflation factors (VIF) and Tolerance to determine whether or not multicollinearity was a problem.

### **Evaluation of Research Methods**

For evaluation of research methods involved in this study, the strengths and weaknesses of both internal and external validity of the research methods were examined. Validity implies reliability (consistency). Internal validity refers to getting results that accurately reflect the concept or construct being measured, or the degree to which the operational definition of a variable accurately reflects the variable it is designed to

measure (Campbell and Stanley, 1963). External validity addresses the question of generalizability to other samples or situations or settings (to whom or what can the results be generalized). External validity can be distinguished between two types: Population validity refers to the ability to generalize results to other populations and ecological validity refers to generalizing findings to other conditions, situations, or settings (Brown, 2000; Polgar & Thomas, 1997).

### ***Internal Validity***

#### ***Strengths***

1. The quantitative, explanatory (correlational) research design used to test hypotheses 2 through 6 was stronger than an exploratory comparative research design or descriptive design.
2. Procedures for data analysis were appropriate for answering research questions and testing hypotheses which strengthens the internal validity
3. The appropriate sample size to conduct multiple regression analyses was determined using Green's (1991) formula and was adequate to conduct data analyses.
4. The use of a quantitative research design had higher internal validity than a qualitative research design.
5. The instruments used in the survey were valid and reliable through previous empirical research using Cronbach's alpha to establish internal consistency and exploratory factor analysis for construct validity.

#### ***Weaknesses***

1. The research design was nonexperimental.



2. Instruments with no previous validity tests may threaten internal validity. There were two in this study—*Perceived Barriers and Facilitators to Career Advancement* (Lyness & Thompson, 2000).

3. The online survey design via the Internet may have produced a smaller response rate for analysis than a mailed survey.

4. Due to the artificiality of the survey, survey responses in most cases were regarded as approximate indicators of the actual answers to questions (Babbie, 2004).

### ***External Validity***

#### ***Strengths***

1. The sampling plan invited the entire target population to participate.

2. The self report survey was completed by participants in their natural setting which reduced the reactive effects that would be present in an experimental design.

3. The study used a large sample (entire accessible population) which helped with representation and subsequent generalizability.

#### ***Weaknesses***

This study used a homogenous target population, where participants were selected from local and state law enforcement organizations in one state, the State of Florida.

Results may not be generalized to law enforcement agencies in other geographic areas.

Chapter III described the research methods that were used to answer research questions and test hypotheses about the relationship and differences among human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career advancement. The chapter described the research design, population and sampling, instrumentation, data

collection procedures, which also includes ethical considerations, and methods of data analysis to answer research questions and test hypotheses. Lastly the chapter presented an evaluation of the research methods in this study. Chapter IV presents the findings.

## CHAPTER IV: RESULTS

Chapter IV presents the results of the study of the relationships among human capital assets, demographic characteristics, organizational characteristics, perceived procedural and distributive justice, perceived barriers and facilitators to the attainment of leadership positions, and the attainment of leadership positions in law enforcement organizations in the State of Florida. SPSS statistical software version 14.0 was used to analyze data collected from the online survey. Results of the data analyses used to answer research questions and test hypotheses are presented. Measurement scales were tested for reliability and validity and are reported.

### Final Data Producing Sample

Invitation e-mails soliciting participation in the survey were sent to 2,500 law enforcement officers holding the rank of sergeant and above in 75 selected state and local law enforcement organizations in the state of Florida. Responses from 428 individuals were received. Of these, 7 (1.6%) declined to participate in the survey and 128 (29.9%) failed to finish the survey in its entirety. Two respondents were from state organizations and five identified themselves as American Indian, Asian, or Pacific Islander, too few to include in the analysis(see Table 4-1). Therefore, a total of 286 (66.8%) responses were used for data analysis procedures. This resulted in an 11.64% overall response rate.

Table 4-1

#### *Summary of Responses to the Online Survey*

Responses	n	%
Valid	286	66.8
Declined to Participate	7	1.7
Failed to Complete Survey	129	30.1

## Reliability and Validity of Measurement Scales

### *Procedural Justice Scale*

Construct validity of the 6-item *Procedural Justice Scale* was established using principal component analysis. All six items loaded on one component with an eigenvalue greater than 1. The factor explained 73.94% of the total variance. The factor loadings of the six items ranged from 0.80 to 0.93. The single-factor structure of the *Procedural Justice Scale* was established, providing evidence of construct validity. The factor loadings of the *Procedural Justice Scale* are presented in Table 4-2.

Table 4-2

*Item Factor Loadings for the Procedural Justice Scale*

Item	Factor Loading
6. Accurate information is collected	.93
4. Complete information is collected	.91
2. All sides affected by decisions are represented	.86
3. The decisions are applied with consistency	.85
5. Opportunities are provided to appear	.80
1. Requests for clarification and additional information is allowed	.80

The internal consistency reliability of the *Procedural Justice Scale* was analyzed using Cronbach's coefficient alpha. The coefficient alpha value was 0.93, greater than the standard of 0.70 reported by Nunally and Bernstein (1994). The item-total correlations and alpha if the item was deleted are presented in Table 4-3. The alpha did not improve beyond 0.93 if any item was deleted, so all items were retained.

Table 4-3

*Corrected Item-Total Correlation of Items on the Procedural Justice Scale*

Item	Item-total Correlation	Alpha if Item Deleted
6. Accurate information is collected	.89	.90
4. Complete information is collected	.86	.91
2. All sides affected by decisions are represented	.79	.92
3. The decisions are applied with consistency	.78	.92
5. Opportunities are provided to appear	.72	.93
1. Requests for clarification and additional information is allowed	.72	.92

*Distributive Justice Scale*

Construct validity of the 6-item *Distributive Justice Scale* was established using principal component analysis. All six items loaded on one component with an eigenvalue greater than 1. The factor explained 81.58% of the total variance. The factor loadings of the six items ranged from 0.87 to 0.94. The single-factor structure of the *Distributive Justice Scale* was established, providing evidence of construct validity (see Table 4-4).

Table 4-4

*Item Factor Loadings for the Distributive Justice Scale*

Item	Factor Loading
4. Reward based on amount of effort put forth	.95
5. Reward based on work done well	.93
3. Reward based on experience	.92
1. Reward based on responsibilities	.89
2. Reward based on education and training	.88
6. Reward for stresses and strains of job	.87

The internal consistency reliability of the *Distributive Justice Scale* was analyzed using Cronbach's coefficient alpha. The coefficient alpha value was 0.95. The item-total

correlations and alpha if the item was deleted are presented in Table 4-5. The alpha did not improve beyond 0.95 if any item was deleted. Therefore, all items were retained.

Table 4-5

*Corrected Item-Total Correlation of Items on the Distributive Justice Scale*

Item	Item-total Correlation	Alpha if Item Deleted
4. Reward based on amount of effort put forth	.92	.94
5. Reward based on work done well	.89	.94
3. Reward based on experience	.88	.94
1. Reward based on responsibilities	.84	.95
2. Reward based on education and training	.83	.95
6. Reward for stresses and strains of job	.81	.95

***Perceived Barriers to Career Advancement***

The *Perceived Barriers to Career Advancement Scale* has 26 items organized into six subscales: (a) Lack of Culture Fit (seven items), (b) Excluded From Informal Networks (two items), (c) Lack of Mentoring (four items), (d) Poor Organizational Career Management Processes (three items), (e) Difficulty Getting Developmental Assignments (seven items), and (f) Difficulty Obtaining Opportunities For Geographic Mobility (three items). Construct validity was tested using principal component analysis. The 26 items loaded on five factors with eigenvalues greater than 1. The five factors explained 71.98% of the total variance. The factor loadings of abbreviated items are presented in Table 4-6.

Table 4-6

*Item Factor Loadings for the Perceived Barriers to Career Advancement Scale*

Factor/Item	Factor				
	1	2	3	4	5
1. Difficulty Getting					
2. Lack of opportunities...	.83				
6. Difficulty getting access...	.81				
5. Difficulty getting access...	.80				
3. Difficulty getting...	.80				
7. Not being...	.76				
1. Not getting...	.76				
4. Not being...	.75				
2. Lack of Culture Fit					
5. Feeling you...		.75			
3. Felling like...		.72			
4. Not feeling...		.71			
1. Feeling pressure ...		.68			
6. Feeling like ...		.65			
2. Few role...		.58			
7. People tend ...		.55			
3. Poor Management of Career <sup>a</sup>					
LM2. Not having...			.75		
CM1. Poor career.....			.74		
LM1. Not enough...			.72		
LM4. Don't receive...			.68		
CM2. Do not know...			.65		
LM3. No access...			.60		
CM3. Unsure how ...			.56		
4. Difficulty Obtaining Opportunities for Geographic Mobility					
3. Difficult getting...				.94	
1. Need to gain...				.91	
2. Not being considered...				.91	
5. Excluded From Informal Networks					
1. Being excluded...					.78
2. Limited access...					.74

<sup>a</sup> Note: LM = Lack of Mentoring, CM = Poor Organizational Career Management Processes

<sup>b</sup> Note: Permission was not granted by developer to reproduce entire scale in published dissertation

All original items loaded onto four of the original factors (Lack of Culture Fit, Excluded from Informal Networks, Difficulty Getting Developmental Assignments, and Difficulty Obtaining Opportunities for Geographic Mobility). However, items of the Poor Organizational Career Management Processes subscale and the Lack of Mentoring subscale loaded on the same factor, reducing the number of factors to five instead of the six developed from models by Lyness and Thompson (2000). The new factor was named Poor Management of Career.

Internal consistency reliability was analyzed using Cronbach's coefficient alpha. The coefficient alpha values are presented in Table 4-7. The coefficient alpha values of the five subscales ranged from 0.88 to 0.95 and the total *Perceived Barriers to Career Advancement Scale* coefficient alpha was 0.95. Lyness and Thompson (2000) reported reliabilities for the six scales ranging from 0.69 (Difficulty Getting Geographic Mobility Opportunities) to 0.84 (Difficulty Getting Developmental Assignments). The item-total correlations and alpha if item deleted statistics for each scale were adequate, with no item in any scale deflating or inflating the alpha values.

Table 4-7

*Reliability Values Obtained for Perceived Barriers to Career Advancement Scale and Subscales*

Subscale	Number of Items	Cronbach's Alpha
1. Difficulty Getting Developmental Assignments	7	.95
2. Lack of Culture Fit	7	.88
3. Poor Management of Career	7	.90
4. Difficulty Obtaining Opportunities for Geographic Mobility	3	.93
5. Excluded From Informal Networks	2	.92
Total Scale: Perceived Barriers to Career Advancement	26	.95



### ***Perceived Facilitators to Career Advancement Scale***

The *Perceived Facilitators to Career Advancement Scale* contains 21 items organized into five subscales: (a) Developing Relationships (four items), (b) Managing Own Career (four items), (c) Mentoring (eight items), (d) Developmental Assignments (four items), and (e) Having a Good Track Record (one item). Construct validity was tested using principal component analysis. The 21 items loaded on four factors with eigenvalues greater than 1. The four factors explained 77.30% of the total variance. The factor loadings of the 21 abbreviated items are presented in Table 4-8. All items loaded on their original factors, with the exception of the single item of Having a Good Track Record. This item loaded onto the same factor as the four items of the Developing Relationships subscale, reducing the number of factors (and respective subscales) to four instead of the five developed from models by Lyness and Thompson (2000). The new subscale created from the two original subscales was named Networking.

Table 4-8

*Item Factor Loadings for the Perceived Facilitators to Career Advancement Scale*

Factor/Item	Factor			
	1	2	3	4
1. Mentoring				
6. Working for managers...	.85			
5. Working for supervisors...	.85			
2. Help establishing...	.83			
3. Advice on...	.82			
4. Having senior managers...	.81			
7. Information about...	.79			
1. Moral...	.78			
8. Having...	.72			
2. Managing Own Career...				
1. Initiating your...		.86		
2. Initiating moves...		.85		
3. Having a clear...		.77		
4. Taking personal...		.77		
3. Developmental Assignments				
3. Having job assignments...			.80	
2. Breadth of ...			.79	
4. Early significant...			.78	
1. Being offered...			.70	
4. Networking <sup>a</sup>				
DR1. Developing relationships...				.72
DR2. Developing informal...				.71
DR3. Credibility...				.64
DR4. Being...				.60
GTR 1. Having a...				.57

<sup>a</sup>Note: DR = Developing Relationships, GTR = Having a Good Track Record

<sup>b</sup>Note: Permission was not granted by developer to reproduce entire scale in published dissertation

The internal consistency reliability of the four subscales was analyzed using Cronbach's coefficient alpha (see Table 4-9). The values of the four subscales ranged from 0.87 to 0.96 and the total scale value was 0.96. Lyness and Thompson (2000) reported reliabilities for the four scales ranging from 0.70 (Developing Relationships)

to 0.90 (Mentoring). The item-total correlations and alpha if item deleted statistics for each scale were adequate, with no item in any scale deflating or inflating the alpha values.

Table 4-9

*Reliability Values Obtained for Perceived Facilitators to Career Advancement Scale and Subscales*

Scale/Subscale	Number of Items	Cronbach's Alpha
1. Mentoring	8	.96
2. Managing Own Career	4	.91
3. Developmental Assignments	4	.94
4. Networking	5	.86
Total Scale: Perceived Facilitators to Career Advancement	21	.96

***Determining Divergent Validity***

***Two Career Advancement Scales***

Divergent validity is a form of construct. Divergent validity indicates the results of one instrument are not correlated too strongly with measurements of another similar, but different instrument. It was expected that the scores on the subscales of the *Perceived Barriers to Career Advancement* (higher barrier scores are associated with more problems in career advancement) will be negatively correlated (inversely related) with the scores on the subscales of the *Perceived Facilitators to Career Advancement* (higher facilitator scores are associated with more facilitators to career advancement). Pearson *r* correlations were obtained between the total scores and subscale scores of each scale (see Table 4-10). A number of the values obtained were statistically significant for an inverse relationship and almost all of the correlations between the two scales were inverse relationships.

Table 4-10

*Correlation of Perceived Barriers and Perceived Facilitators to Career Advancement*

Perceived Barriers to Career Advancement	Perceived Facilitators to Career Advancement				
	Total scale	Networking	Managing Own Career	Mentoring	Developmental Assignments
Total Scale	-.14*	-.10	-.15*	-.12*	-.12*
Lack of Culture Fit	-.12*	-.09	-.12*	-.10	-.11
Excluded from Informal Networks	-.01	-.01	-.01	.00	.02
Poor Management of Career	-.18*	-.11	-.12*	-.18*	-.17*
Difficulty Getting Developmental Assignments	-.14*	-.11	-.22*	-.09	-.11
Difficulty Obtaining Opportunities for Geographic Mobility	.06	.00	.07	.04	.12*

\*  $p < .05$

### ***Leadership Attainment Scale***

Because of the small sample sizes in four of the seven categories of the attainment of law enforcement position variable, for comparative and correlational analyses, the seven categories were collapsed into five. Therefore, this variable contains five rank ordered groups where 5 = CEO/Assistant Chief ( $n = 26$ ), 4 = Major/Commander ( $n = 14$ ), 3 = Captain ( $n = 22$ ), 2 = Lieutenant ( $n = 79$ ), and 1 = Sergeant ( $n = 150$ ). To determine convergent and divergent validity of this scale to measure attainment of law enforcement position, Pearson  $r$  correlations were conducted with age, perceived procedural justice, distributive justice, and tenure. The attainment of enforcement position was correlated positively with age ( $r = .25, p < .01$ ) indicating older officers had higher leadership positions and with perceived procedural justice ( $r = .15, p = .01$ ) and distributive justice ( $r = .25, p < .01$ ), indicating officers in higher positions had better perceptions of procedural and distributive justice. These expected relationships provide evidence of the divergent validity with the attainment of *law enforcement leadership position*.

### **Research Questions**

#### ***Research Question 1***

*What are the human capital assets, demographic characteristics, organizational characteristics, and the perceptions of procedural justice, distributive justice, and facilitators and barriers of career advancement in local and state law enforcement organizations?*

#### ***Human Capital Assets***

Human capital assets include highest educational level achieved, level of advanced training, law enforcement years of experience, level of knowledge, and number

of years within organization (see Table 4-11). Two thirds of the respondents had at least a 4-year college degree. More than 70% of the respondents indicated that they had trained at another institution other than the FBI or Southern Police Institute. More than 90% of the respondents indicated that their knowledge level was above average or advanced.

Table 4-11

*Human Capital Assets of the Respondents*

Asset	n	%
Level of Education Obtained		
High School	12	4.2
1-3 Years Of College	77	26.9
Four Year College Graduate	131	45.8
Professional	66	23.1
Level of Training		
FBI Administrative Officers Course	19	6.6
Southern Police Institute	64	22.4
Other	203	71.0
Knowledge Level		
Moderate	17	5.9
Above Average	140	49.0
Advanced	129	45.1

Tenure and experience of the respondents are presented in Table 4-12. The officers indicated that they had at least 5 years of experience, with an average of 20.6 years. They have been with their current organization between 1 and 35 years, with an average of 18.6 years.

Table 4-12

*Human Capital Assets of the Respondents—Experience and Tenure*

Asset	Range	M	SD
Years of Experience	5-38	20.58	6.75
Years Within Current Organization	1-35	18.62	6.96

### ***Demographic Characteristics***

Age, race, ethnicity, and gender of the respondents are presented in Table 4-13. The majority of the respondents were White (79%). Fewer than 5% of the respondents indicated that they were Hispanic. One in every five respondent was female. The age of the respondents ranged from 26 to 65 with an average age of 44.7 years ( $SD = 6.79$ ).

Table 4-13

#### ***Demographic Characteristics of the Respondents***

Characteristic	n	%
Race		
White	226	79.0
African American	60	21.0
Ethnicity		
Hispanic	11	3.8
Not Hispanic	275	96.2
Gender		
Male	228	79.7
Female	58	20.3

### ***Organizational Characteristics***

The characteristics of the organization are presented in Table 4-14. Most of the officers were in organizations of 250 or more employees (70%) and were employed by county governments (55%). Most officers reported that they were affiliated with a union (85%) and that they were promoted (94%) instead of appointed (6%).

Table 4-14

*Organizational Characteristics of the Respondents*

Characteristic	n	%
Size of the Organization		
100-149	26	9.1
150-199	44	15.4
200-249	16	5.6
250 or More	200	69.9
Affiliation		
Municipal	131	45.8
County	155	54.2
Union affiliation		
Unionized	246	86.0
Nonunionized	40	14.0
Promotion Process		
Promotion	269	94.1
Appointment	17	5.9

***Perceptions of Procedural and Distributive Justice and Facilitators and Barriers of Career Advancement***

The range, means, and standard deviations of all scales are presented in Table 4-15. Respondents indicated a moderate perception of *Procedure Justice* and *Distributive Justice*. Their average responses to the *Facilitators* and *Barriers of Career Advancement* scales showed a perception of moderate facilitation and few barriers.



Table 4-15

*Ranges, Means, and Standard Deviations of the Perceptions of Procedural and Distributive Justice and Facilitators and Barriers to Career Advancement*

Scale	Possible Range of Responses	M	SD
Procedure Justice (Higher scores are associated with better perceptions of Procedural Justice)	6-42	28.42	9.34
Distributive Justice (Higher scores are associated with better perceptions of Distributive Justice)	6-30	20.51	6.20
Facilitators of Career Advancement (Higher scores indicate more Facilitators of Career Advancement)			
Mentoring	8-40	25.04	10.22
Managing Own Career	4-20	14.24	4.65
Developmental Assignments	4-20	13.69	4.78
Networking	5-25	18.54	5.08
Total	21-105	71.52	21.20
Barriers of Career Advancement (Higher scores are associated with more barriers to career advancement)			
Difficulty Getting Developmental Assignments	7-35	14.69	7.15
Lack of Culture Fit	7-35	15.27	6.56
Poor Management of Career	7-35	15.44	6.85
Difficulty Obtaining Opportunities for Geographic Mobility	3-15	4.42	2.88
Excluded From Informal Networks	2-10	3.62	2.17
Total	26-119	53.43	20.25

**Research Question 2**

*Are there differences in human capital assets, demographic characteristics, and the perceptions of procedural justice, distributive justice, and facilitators and barriers of career advancement according to organizational characteristics of local and state law enforcement organizations?*

### ***Differences in Type of Advanced Training by Organizational Characteristics***

There were significant differences in the type of advanced training by government affiliation ( $\chi^2 = 15.35, p < .01$ ) and union affiliation ( $\chi^2 = 5.76, p = .02$ ). Officers employed by county governments or affiliated with unions were more likely to have received training somewhere other than at the FBI or at the Southern Police Institute (see Table 4-16). Significant differences were found in the type of advanced training by promotion process ( $\chi^2 = 11.17, p < .01$ ). Officers with appointed positions were more likely to have received advanced training from the FBI or the Southern Police Institute, while those who obtained their jobs through promotion were more likely to have received their training from other institutions, schools, or organizations and not the FBI or the Southern Police Institute.

An independent *t* test analysis of advanced training by organization size was conducted. Significant differences in organization size were found between the types of advanced training ( $t = 3.67, p < .01$ ). Respondents who received their advanced training at the FBI or Southern Police Institute were in significantly smaller organizations ( $M = 2.99$ ) than those who received their training elsewhere ( $M = 3.52$ ).

Table 4-16

*Advanced Training by Organizational Characteristics*

	Advanced training				$\chi^2$	<i>P</i>
	Other Training		FBI/Southern Police Institute			
	n	%	n	%		
Government Affiliation					15.35	< .01
Municipal	78	59.5	53	40.5		
County	125	80.6	30	19.4		
Union Affiliation					5.76	.02
Union	181	73.6	65	26.4		
Nonunion	22	55.0	18	45.0		
Promotion process					11.17	< .01
Promotion	197	73.2	72	26.8		
Appointment	6	35.3	11	64.7		

***Differences in Education, Years of Experience, Years within Current Organization, Knowledge Level, and Attainment of Leadership Position by Organizational Characteristics***

Respondents with no union affiliation reported more years within the current organization than those with union affiliation (see Table 4-17). Those with appointed positions had more years of experience within the current organization than those promoted. Respondents in municipal organizations reported more years of experience than those in county organizations. Promoted respondents reported a significantly higher knowledge level than respondents appointed to their position. However, those appointed to their position are in significantly higher leadership positions than those in promoted positions. Respondents in municipal organizations reported significantly higher leadership positions than did the respondents in county organizations did. Respondents in appointed positions had significantly more education.

Table 4-17

*Differences in Education, Years of Experience, Years Within Current Organization, Knowledge Level, and Attainment of Leadership Position by Union Affiliation, Promotion Process, and Government Affiliation*

Asset/Organizational Characteristic	<i>n</i>	<i>M</i>	<i>t</i>	<i>P</i>
Education				
Union Affiliation			-1.46	.15
Union Affiliation	246	2.85		
Nonunion Affiliation	40	3.05		
Promotion Process			-3.49	< .01
Promotion	269	2.84		
Appointment	17	3.53		
Government Affiliation			1.92	.06
Municipal	131	2.98		
County	155	2.79		
Years of Experience				
Union Affiliation			-1.89	.06
Union Affiliation	246	20.28		
Nonunion Affiliation	40	22.45		
Promotion Process			-1.60	.10
Promotion	269	20.42		
Appointment	17	23.12		
Government Affiliation			2.08	.04
Municipal	131	21.48		
County	155	19.83		
Years Within Current Organization				
Union Affiliation			-2.05	.04
Union Affiliation	246	18.28		
Nonunion Affiliation	40	20.70		
Promotion Process			-2.15	.03
Promotion	269	18.40		
Appointment	17	22.12		
Government Affiliation			1.51	.13
Municipal	131	19.30		
County	155	18.05		
Knowledge Level				
Union Affiliation			-.95	.34
Union Affiliation	246	3.38		
Nonunion Affiliation	40	3.48		
Promotion Process			-2.54	<.01
Promotion	269	3.37		
Appointment	17	3.76		
Government Affiliation			-.26	.80
Municipal	131	3.38		
County	155	3.40		

Table 4-17 Continued

Asset/Organizational Characteristic	<i>n</i>	<i>M</i>	<i>t</i>	<i>P</i>
Attainment of Leadership Position (5= CEO/Assistant Chief, 1=Sergeant)				
Union Affiliation			-1.65	.10
Union Affiliation	246	1.87		
Nonunion Affiliation	40	2.23		
Promotion Process			-5.74	< .01
Promotion	269	1.82		
Appointment	17	3.53		
Government Affiliation			2.83	< .01
Municipal	131	2.15		
County	155	1.73		

The relationship between the human capital assets of education, experience, knowledge level, years of experience, and attainment of leadership position and organizational size was measured by Pearson *r* correlations (see Table 4-18). The only significant inverse relationship was found between the attainment of leadership position and organizational size ( $r = -.22, p < .01$ ), indicating that respondents in smaller organizations were more likely to be in higher leadership positions.

Table 4-18

*Relationship between Human Capital Assets and Organizational Size*

Variables	Pearson <i>r</i>	<i>P</i>
Education	-.01	.87
Experience	.06	.29
Knowledge Level	.02	.69
Years Within Organization	.06	.28
Attainment of Leadership Position (5= CEO/Assistant Chief, 1=Sergeant)	-.22	< .01

***Demographic Characteristics by Organizational Size***

The relationship between age and organizational size was measured by a Pearson *r* correlation. There was no significant relationship between the two variables ( $r = .07, p = .26$ ). Age and organizational size were not related to each other in this sample of respondents. The results of independent *t* test analyses of the demographic characteristics

of race, ethnicity, and gender by organizational size are presented in Table 4-19. A significant difference was found between White and African American respondents. African American respondents reported working in organizations that are larger than the organizations in which Whites work. However, there were no significant differences found between males and females or Hispanic and not Hispanic respondents.

Table 4-19

*Race, Ethnicity, and Gender by Organizational Size*

Demographic Characteristic	<i>n</i>	<i>M</i>	<i>t</i>	<i>P</i>
Race			-2.06	.04
White	226	3.31		
African American	60	3.58		
Ethnicity			<.01	.99
Not Hispanic	275	3.36		
Hispanic	11	3.36		
Gender			-1.34	.18
Male	228	3.32		
Female	58	3.52		

*Race, Ethnicity, and Gender by Government Affiliation, Union Affiliation, and Promotion Process*

Chi-square analyses of the distribution of respondents' race, ethnicity, and gender did not find significant differences by government affiliation (see Table 4-20). There were no differences in the proportion of Hispanic and not Hispanic or male and female respondents in the different government organizations.

Table 4-20

*Demographic Characteristics by Government Affiliation*

Characteristic	Government Affiliation				$\chi^2$	P
	Municipal		County			
	n	%	n	%		
Race					4.76	.03
White	111	84.7	115	74.2		
African American	20	15.3	40	25.8		
Ethnicity					3.34	.07
Hispanic	8	6.1	3	1.9		
Not Hispanic	123	93.9	152	98.1		
Gender					1.11	.29
Male	108	82.4	120	77.4		
Female	23	17.6	35	22.6		

Chi-square analyses of the distribution of respondents' race, ethnicity, and gender found significant differences by union affiliation (see Table 4-21). There were no differences in the proportion of Hispanic and not Hispanic or male and female respondents by union affiliation. However, more African Americans reported being employed in union organizations (23%) than in nonunion organizations (8%).

Table 4-21

*Demographic Characteristics by Union Affiliation*

Characteristic	Union Affiliation				$\chi^2$	P
	Union		Nonunion			
	n	%	n	%		
Race					5.10	.02
White	189	76.8	37	92.5		
African American	57	23.2	3	7.5		
Ethnicity					1.86	.17
Hispanic	11	4.5	0	0.0		
Not Hispanic	235	95.5	40	100.0		
Gender					0.22	.64
Male	195	79.3	33	82.5		
Female	51	20.7	7	17.5		

Chi-square analyses of the distribution of respondents by race, ethnicity, and gender did not find significant differences by promotion process (see Table 4-22). There were no differences in the proportion of White and African American, Hispanic and not Hispanic, or male and female respondents in positions that were by promotion or by appointment.

Table 4-22

*Demographic Characteristics by Promotion Process*

Demographic Characteristics by Promotion Process						
Characteristic	Promotion process				$\chi^2$	P
	Promotion		Appointment			
	n	%	n	%		
Race					2.23	.14
White	215	79.9	11	64.7		
African American	54	20.1	6	35.3		
Ethnicity					0.20	.65
Hispanic	10	3.7	1	5.9		
Not Hispanic	259	96.3	16	94.1		
Gender					0.12	.73
Male	215	79.9	13	76.5		
Female	54	20.1	4	23.5		

The results of independent *t* test analyses of the demographic characteristic of age by union affiliation, promotion process, and government affiliation are presented in Table 4-23. There were no significant differences in age between the different organizational characteristics.



Table 4-23

*Differences in Age by Union Affiliation, Promotion Process, and Government Affiliation*

Organizational characteristic	<i>n</i>	<i>M</i>	<i>t</i>	<i>P</i>
Union Affiliation			-1.20	.23
Union Affiliation	246	44.50		
Nonunion Affiliation	40	45.88		
Promotion Process			-1.09	.28
Promotion	269	44.58		
Appointment	17	46.41		
Government Affiliation			1.43	.15
Municipal	131	45.31		
State	155	44.17		

***Relationships between Perceptions of Procedural Justice, Distributive Justice, Facilitators of Career Advancement, Barriers of Career Advancement and Organizational Characteristics***

Table 4-24 presents the results of the Pearson *r* correlation analyses to determine if there were relationships between *Procedural Justice*, *Distributive Justice*, perceived *Facilitators of Career Advancement*, and perceived *Barriers of Career Advancement* and organization size. There were no significant relationships between the variables.

Table 4-24

*Relationship between Procedural Justice, Distributive Justice, Facilitators to Career Advancement, Barriers to Career Advancement and Size of Organization*

Variables	Pearson <i>r</i>	<i>P</i>
Procedural Justice	-.01	.94
Distributive Justice	.07	.25
Barriers to Career Advancement		
Lack of Cultural Fit	-.05	.40
Excluded from Informal Networks	-.02	.79
Poor Management of Career	-.05	.42
Difficulty Obtaining Opportunities for Geographic Mobility	-.04	.47
Difficulty Getting Developmental Assignments	-.04	.46
Facilitators to Career Advancement		
Networking	-.01	.88
Managing Own Career	-.09	.15
Mentoring	.03	.56
Developmental Assignments	-.01	.88

The results of independent *t* test analyses of the perceptions of *Procedural Justice* and *Distributive Justice* and *Facilitators* and *Barriers of Career Advancement* by union affiliation are presented in Table 4-25. Significant differences were found in respondents' perceptions of *Procedural Justice* by union affiliation. Respondents in nonunion organizations perceived higher *Procedural Justice* than respondents in union organizations did. There were no significant differences in *Distributive Justice* or the facilitators and barriers of career advancement based on union affiliation.

Table 4-25

*Differences in Procedural and Distributive Justice and Facilitators and Barriers to Career Advancement by Union Affiliation*

Subscale	Means		<i>t</i>	<i>P</i>
	Union <i>n</i> = 246	Non union <i>n</i> = 40		
Procedural Justice	27.97	31.23	-2.06	.04
Distributive Justice	20.68	19.45	1.17	.24
Facilitators				
Networking	18.51	18.78	-.30	.76
Managing Own Career	14.25	14.23	.03	.98
Mentoring	24.09	24.68	.24	.81
Developmental Assignments	13.72	13.50	.27	.78
Barriers				
Lack of Cultural Fit	15.35	14.75	.54	.59
Excluded from Informal Networks	3.61	3.63	-.03	.98
Difficulty Getting Developmental Assignments	14.83	13.83	.82	.41
Difficulty Obtaining Opportunities for Geographic Mobility	4.50	3.98	1.06	.29
Poor Management of Career	15.52	14.90	.53	.59

The results of independent *t* test analyses of the perceptions of *Procedural Justice* and *Distributive Justice* and *Facilitators* and *Barriers of Career Advancement* by promotion process are presented in Table 4-26. A significant difference in perceptions of *Networking*, *Mentoring*, and *Developmental Assignments* was found. In each case, appointed respondents reported a higher perception of the facilitators than those who were promoted. There were no further significant differences in the perceptions of barriers and facilitators to career advancement, or *Procedural Justice* or *Distributive Justice* between those respondents who have positions through promotion and those respondents who have positions through appointment.

Table 4-26

*Differences in Procedural and Distributive Justice and Facilitators and Barriers to Career Advancement by Promotion Process*

Subscale	Means		<i>t</i>	<i>P</i>
	Promotion <i>n</i> = 269	Appoint <i>n</i> = 17		
Procedural Justice	28.16	32.59	-1.91	.06
Distributive Justice	20.51	20.59	-.04	.97
Facilitators				
Networking	18.43	20.35	-2.20	.04
Managing Own Career	14.20	15.00	-.69	.49
Mentoring	24.81	28.53	-2.19	.04
Developmental Assignments	13.56	15.76	-2.62	.02
Barriers				
Lack of Culture Fit	15.11	17.65	-1.55	.12
Excluded From Informal Networks	3.58	4.18	-1.10	.27
Difficulty Getting Developmental Assignments	14.64	15.34	-.40	.69
Difficulty Obtaining Opportunities for Geographic Mobility	4.41	4.71	-.42	.68
Poor Management of Career	15.42	15.76	-.20	.84

The results of independent *t* test analyses of the perceptions of *Procedural Justice* and *Distributive Justice* and *Facilitators* and *Barriers of Career Advancement* by government affiliation are presented in Table 4-27. There were no significant differences in the perceptions of the *Facilitators* and *Barriers to Career Advancement* or *Procedural* and *Distributive Justice* between those respondents who are employed by municipal governments and those respondents who are employed by county governments.

Table 4-27

*Differences in Procedural and Distributive Justice and Facilitators and Barriers to Career Advancement by Governmental Affiliation*

Subscale	Means		<i>t</i>	<i>P</i>
	Municipal	County		
Procedural Justice	28.11	28.69	-.53	.60
Distributive Justice	21.03	20.07	1.31	.19
Facilitators				
Networking	18.84	18.30	.89	.38
Managing Own Career	14.46	14.06	.71	.48
Mentoring	25.21	24.88	.27	.79
Developmental Assignments	14.06	13.38	1.20	.23
Barriers				
Lack of Culture Fit	15.31	15.23	.11	.91
Excluded From Informal Networks	3.38	3.81	-1.68	.09
Difficulty Getting Developmental Assignments	14.73	14.65	.09	.93
Difficulty Obtaining Opportunities for Geographic Mobility	4.25	4.56	-.92	.36
Poor Management of Career	15.62	15.28	.41	.68

### Research Hypotheses

#### *Research Hypothesis 1*

*African American women perceive significantly less procedural justice, less distributive justice, fewer facilitators, and greater barriers to career advancement, and attain fewer local and state law enforcement leadership positions than other racial and gender groups.*

#### **Hypothesis H1<sub>a</sub>**

H1<sub>a</sub>: Women perceive significantly less procedural justice, less distributive justice, fewer facilitators and greater barriers to career advancement, and attain fewer leadership positions in local and state law enforcement organizations than men attain.

For Research Hypothesis 1<sub>a</sub>, 14 independent *t* tests were used and results are presented in Table 4-28. The only significant difference was for the *Barrier to Career*

*Advancement* subscale of *Lack of Cultural Fit*, where females reported more barriers than males did. There were no further significant differences between males and females.

Because only one of the 14 *t* tests was significant, Hypothesis 1<sub>a</sub>, that women perceive significantly less procedural justice, less distributive justice, fewer facilitators and greater barriers to career advancement, and attain fewer leadership positions in local and state law enforcement organizations than men attain was partially supported.

Table 4-28

*Differences in Procedural and Distributive Justice, Facilitators and Barriers to Career Advancement, and Attainment of Law Enforcement Position by Gender*

Scales and Subscales	Range of Possible Scores	Means		<i>t</i>	<i>P</i>
		Male <i>n</i> = 228	Female <i>n</i> = 58		
Procedural Justice	6-42	28.70	27.33	1.00	.32
Distributive Justice	6-30	20.43	20.79	-.39	.70
Barriers to Career Advancement					
Lack of Cultural Fit	7-35	14.69	17.53	-2.99	<.01
Excluded from Informal Networks	2-10	3.58	3.74	-.50	.62
Difficulty Getting Developmental Assignments	7-35	14.57	15.12	-.52	.60
Difficulty Obtaining Opportunities for Geographic Mobility	3-15	4.32	4.81	-.97	.34
Poor Management of Career	7-35	15.41	15.56	-.06	.96
Total Scale	26-130	52.58	56.76	-1.41	.16
Facilitators to Career Advancement					
Networking	5-25	18.58	18.41	.23	.82
Managing Own Career	4-20	14.13	14.71	-.85	.40
Mentoring	8-40	25.33	23.86	.98	.33
Developmental Assignments	4-20	13.79	13.31	.68	.50
Total Score	21-105	71.83	70.29	.49	.62
Law Enforcement Position	1-5	1.92	1.94	-.17	.86

### ***Hypothesis H1<sub>b</sub>***

H1<sub>b</sub>: African Americans perceive significantly less procedural justice, less distributive justice, fewer facilitators and greater barriers to career advancement, and attain fewer leadership positions in local and state law enforcement than other racial groups.

For Research Hypothesis 1<sub>b</sub>, 14 *t* tests were performed on all scales and subscales (see Table 4-29). Significant differences ( $p < .05$ ) were found between White and African American respondents on four of the five barriers to career advancement (*Lack of Cultural Fit*, *Excluded from Informal Networks*, *Difficulty Getting Developmental Assignments*, and *Difficulty Obtaining Opportunities for Geographic Mobility*). In all cases, African American respondents reported more barriers and more *total* barriers than White respondents did. However, African Americans reported significantly higher facilitators in *Mentoring* and a trend toward a perception of more total facilitators than White respondents did. Therefore, Research Hypothesis 1<sub>b</sub> was partially supported. African Americans perceived significantly greater barriers to career advancement than other racial groups.

Table 4-29

*Differences in Procedural and Distributive Justice, Facilitators and Barriers to Career Advancement, and Attainment of Law Enforcement Position by Race*

Scales and Subscales	Range of Possible Scores	Means		<i>t</i>	<i>P</i>
		White <i>n</i> = 225	African American <i>n</i> = 60		
Procedural Justice	6-42	28.26	29.05	-.58	.56
Distributive Justice	6-30	20.40	20.92	-.57	.57
Barriers to Career Advancement					
Lack of Cultural Fit	7-35	14.49	18.20	-3.48	<.01
Excluded from Informal Networks	2-10	3.49	4.18	-2.02	<.05
Difficulty Getting Developmental Assignments	7-35	14.19	16.57	-2.31	.02
Difficulty Obtaining Opportunities for Geographic Mobility	3-15	4.02	5.93	-3.67	<.01
Poor Management of Career	7-35	15.32	15.87	-.55	.59
Total Scale	26-130	51.48	60.75	-2.88	<.01
Facilitators to Career Advancement					
Networking	5-25	18.30	19.48	-1.61	.10
Managing Own Career	4-20	14.13	14.68	-.82	.41
Mentoring	8-40	24.30	27.82	-2.49	.02
Developmental Assignments	4-20	13.56	14.18	-.90	.37
Total Score	21-105	70.29	76.17	-1.92	.06
Law Enforcement Position	1-5	1.92	1.95	-.19	.85

***Hypothesis H1<sub>c</sub>***

H1<sub>c</sub>: There will be higher perceptions of procedural justice, distributive justice, facilitators to career advancement, fewer barriers to career advancement, and more leadership positions in local and state law enforcement organizations as follows: White males>African-American males>White females>African-American females.



For Research Hypothesis 1c, 14 one-way ANOVA tests were performed. As hypothesized, White males perceived fewer barriers to career advancement than the other groups. However, African American males perceived the most barriers to career advancement in four of the five barriers (*Lack of Cultural Fit*, *Excluded from Informal Networks*, *Difficulty Getting Developmental Assignments*, and *Poor Management of Career*) and White and African American females were in the middle of the range on the same four barriers. They did not perceive the most barriers as was hypothesized. *Difficulty Obtaining Opportunities for Geographic Mobility*, the fifth barrier, was perceived by African American females as the most difficult, with African American males reporting higher barriers than White males and females.

Significant differences or trends were found on four of the five barriers and on total barriers. In each case, White males perceived significantly fewer barriers than African American males. Considering the subscale, *Lack of Cultural Fit*, White males perceived significantly fewer barriers than all other groups. The hypothesized order of the groups was partially supported—White males perceived fewer barriers than the other groups; however, the hypothesized order of the remaining groups was not supported.

The results of the analyses for *Facilitators of Career Advancement* found that African American males reported more facilitators than the other groups on three of the four subscales (*Networking*, *Mentoring*, and *Developmental Assignments*) and on the total facilitators scale. On the remaining subscale, *Managing Own Career*, African American females reported more facilitators. However, only one significant difference was found on the ANOVA results. African American males perceived significantly more facilitators

to *Mentoring* than the other three groups. The hypothesized order of the groups was not supported for *Facilitators of Career Advancement*.

Although no significant differences were found, African American females reported better perceptions of *Procedural Justice* and *Distributive Justice* than the other three groups of respondents. White females had lower perceptions on these two scales. Again, this was not in the hypothesized order.

African American males and White females reported higher attainment of law enforcement positions. White males were in third position and African American females were last. The position of African American females is as hypothesized. The results of the analyses are presented in Table 4-30.

Table 4-30

*Differences in Procedural and Distributive Justice, Facilitators and Barriers to Career Advancement, and Attainment of Law Enforcement Position by Race and Gender*

Scales and subscales	<i>n</i>	<i>M</i>	<i>F</i>	<i>p</i>	Post hoc <sup>a</sup>
<i>Procedural Justice (Higher scores are associated with better perceptions of Procedural Justice)</i>					
			.89	.45	
1. White male	193	28.65			
2. African American male	35	29.00			
3. White female	33	25.97			
4. African American female	25	29.12			
<i>Distributive Justice (Higher scores are associated with better perceptions of Distributive Justice)</i>					
			.21	.89	
1. White male	193	20.42			
2. African American male	35	20.54			
3. White female	33	20.30			
4. African American female	25	21.44			
<i>Total Barriers To Career Advancement (Higher scores indicate more barriers to career advancement)</i>					
			4.73	<.01	1 < 2
1. White male	193	50.63			
2. African American male	35	63.34			
3. White female	33	56.48			
4. African American female	25	57.12			
<i>Lack of Cultural Fit</i>					
			8.04	<.01	1 < 2, 3, 4
1. White male	193	14.01			
2. African American male	35	18.45			
3. White female	33	17.30			
4. African American female	25	17.84			
<i>Excluded from Informal Networks</i>					
			2.51	.06	1 < 2
1. White male	193	3.42			
2. African American male	35	4.49			
3. White female	33	3.73			
4. African American female	25	3.76			
<i>Difficulty Getting Developmental Assignments</i>					
			2.60	.05	1 < 2
1. White male	193	14.03			
2. African American male	35	17.60			
3. White female	33	15.12			
4. African American female	25	15.12			
<i>Difficulty Obtaining Opportunities for Geographic Mobility</i>					
			7.55	<.01	1, 3 < 2, 4
1. White male	193	4.06			
2. African American male	35	5.80			
3. White female	33	3.82			
4. African American female	25	6.12			

Table 4-30 Continued

Scales and subscales	<i>n</i>	<i>M</i>	<i>F</i>	<i>p</i>	Post hoc <sup>a</sup>
Poor Management of Career			1.26	.29	
1. White male	193	15.12			
2. African American male	35	17.00			
3. White female	33	16.52			
4. African American female	25	14.28			
Total Facilitators ( <i>Higher scores indicate more Facilitators of Career Advancement</i> )			1.92	.13	
1. White male	193	70.46			
2. African American male	35	79.40			
3. White female	33	69.27			
4. African American female	25	71.64			
Networking			1.22	.30	
1. White male	193	18.32			
2. African American male	35	20.06			
3. White female	33	18.21			
4. African American female	25	18.68			
Managing Own Career			.42	.74	
1. White male	193	14.09			
2. African American male	35	14.31			
3. White female	33	14.33			
4. African American female	25	15.20			
Mentoring			3.76	<.01	2 > 1, 3, 4
1. White male	193	24.42			
2. African American male	35	30.34			
3. White female	33	23.55			

<sup>a</sup>Note: Post hoc comparisons significant at  $p < .05$

The hypothesized order of the groups in their perceptions of *Procedural* and *Distributive Justice* and the barriers and facilitators to career advancement was not found in the analyses. In many cases, African American males perceived more barriers than African American females, but reported more facilitators than the other groups. However, although not significant, African American females did report lower rank than the other three groups. Research Hypothesis 1<sub>c</sub> was not supported by the analyses.

## ***Research Hypothesis 2***

*Human capital assets are significant explanatory variables of attainment of local and state law enforcement leadership positions in the State of Florida.*

To test Hypothesis 2, Pearson  $r$  correlation, point-biserial correlation, and stepwise multiple regression analysis were used to examine whether human capital assets are significant explanatory variables of the attainment of leadership position. Training (0=other training, 1=FBI/Southern Police Institute) is a dichotomous variable. Because point-biserial correlation is mathematically equivalent to the Pearson  $r$  correlation analysis, Table 4-31 contains the correlations for all variables. All five of the *Human Capital Assets* (attribute variables) were significantly and positively correlated with the dependent variable. These relationships, in order from strongest to weakest, were training ( $r_{pb} = .41$ ), education ( $r = .40$ ), (experience ( $r = .31$ ), knowledge level ( $r = .27$ ), and years within the organization ( $r = .12$ ).

Table 4-31

*Correlations between the Attainment of Local and State Law Enforcement Leadership Positions and Human Capital Assets*

Human Capital Asset	Correlation	$P$
Training	.41 <sup>b</sup>	< .01
Education	.40 <sup>a</sup>	< .01
Experience	.31 <sup>a</sup>	< .01
Knowledge Level	.27 <sup>a</sup>	< .01
Years Within Organization	.12 <sup>a</sup>	<.05

<sup>a</sup> Pearson  $r$

<sup>b</sup> Point Biserial

Stepwise linear regression was used to test significant variables in Hypothesis 2. Five *Human Capital Asset* variables (training, education, experience, knowledge level, and years within the organization) were identified. The variables were entered according to value of the Pearson  $r$  correlation, starting with the strongest and ending with the

weakest. This produced the model with the highest explanatory power. Multicollinearity was not an issue. The Variance Inflation Factor (VIF) and tolerance were within acceptable ranges. A tolerance of .49 to .93 was above the established standard of .10 and the VIF ranged from 1.07 to 2.04 which were below the established standard of 10.

Four significant models were produced from the regression analysis (see Table 4-32). Model 4, with four *Human Capital Assets* (training, education, experience, years in organization), was the best explanatory model to explain attainment of leadership position ( $F = 32.98, p < .01$ ) having the highest  $R^2$  value of .32 and an adjusted  $R^2$  of .31. Each variable, as it entered into the regression equation, contributed to the  $R^2$ . The first variable to enter the equation, training, contributed 17% of the variance in the dependent variable. Education contributed an additional 9%; experience contributed 5% more; and finally, years in the organization contributed an additional 1% of the variance in the dependent variable. Therefore, 31% (adjusted  $R^2$ ) of the variation in the dependent variable can be explained by the four *Human Capital Assets* in the model.

The contribution by each explanatory variable was significant (as expressed by the  $t$ -test results in Table 4-32). The  $t$  statistic in Model 4 was significant for training ( $t = 5.55, p < .01$ ), education ( $t = 5.74, p < .01$ ), experience ( $t = 4.80, p < .01$ ), and years in the organization ( $t = -2.32, p = .02$ ). The order of importance of the predictor variables in explaining attainment of leadership position according to the standardized Beta coefficients ( $\beta$ ) were from most to least important, experience ( $\beta = .34$ ), training ( $\beta = .29$ ), education ( $\beta = .29$ ), and years in organization ( $\beta = -.16$ ). According to the findings, Hypothesis 2 was supported. *Human Capital Assets* (training, education, experience, and

years in the organization) are significant explanatory variables of attainment of leadership position. The best explanatory model found was:

$$\text{Attainment of leadership position} = (-.36) + .79 (\text{training}) + .45 (\text{education}) + .06 (\text{experience}) - .02 (\text{years in organization}) + e$$

The explanatory model indicates that if a respondent received training at the FBI or Southern Police Institute a value of .79 was added to the predicted leadership position. For each level of education, a respondent received .45 and for each year of experience, a respondent received .06. The negative regression coefficient for years in the organization indicates that for each year in the organization, a value of .02 is subtracted. Therefore, a respondent who received training at the FBI or the Southern Police Institute (value = 1), with a college degree (value = 3), 25 years of law enforcement experience, and 20 years in the current organization would receive a predicted leadership position of

$$2.88 = (-.36) + .79(1) + .45(3) + .06(25) - .02(20)$$

A law enforcement officer with training somewhere other than at the FBI or the Southern Police Institute (value = 0) with some college (value = 2), 20 years of law enforcement experience, and 15 years in the current organization and would receive a predicted leadership position of

$$1.44 = (-.36) + .79(0) + .45(2) + .06(20) - .02(15)$$

Considering that the attainment of leadership position is scaled from 1 (*Sergeant*) to 5 (*CEO/Assistant Chief*), receiving training from the FBI or the Southern Police Institute, possessing a college or professional degree, and accruing more years of experience predicts a higher level of leadership. The negative regression coefficient for

years in current organization, although small, may indicate that tenure in the organization is not as valued as the other *Human Capital Assets*.

The failure of the fifth *Human Capital Asset* to enter the regression equation may be attributed to the large sample size ( $n = 286$ ) in the study, which produced significant, but low correlations between the predictor variables and the dependent variable. It may also be attributed to the partial correlations among the remaining dependent variables as significant predictors were built into the final regression model.

Table 4-32

*Multiple Regression Analysis of Human Capital Assets Explaining Attainment of Law Enforcement Position*

Model	<i>B</i>	<i>SE</i>	<i>B</i>	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i> <sup>2</sup> <i>Change</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup> <i>Adjusted</i>
1 Constant	1.60	.08		19.83	< .01				
Training	1.13	.15	.41	7.54	< .01				
						56.88 ( $< .01$ )	.17	.17	.16
2 Constant	.26	.24		1.11	.27				
Training	.91	.15	.33	6.25	< .01				
Education	.48	.08	.31	5.92	< .01				
						49.34 ( $< .01$ )	.09	.26	.25
3 Constant	-.48	.29		-1.69	.09				
Training	.81	.14	.29	5.66	< .01				
Education	.46	.08	.30	5.75	< .01				
Experience	.04	.01	.22	4.41	< .01				
						41.52 ( $< .01$ )	.05	.31	.30
4 Constant	-.36	.29		-1.26	.21				
Training	.79	.14	.29	5.55	< .01				
Education	.45	.08	.29	5.74	< .01				
Experience	.06	.01	.34	4.80	< .01				
Years in Organization	-.02	.01	-.16	-2.32	.02				
						32.98 ( $< .01$ )	.01	.32	.31



### ***Research Hypothesis 3***

*Perceived procedural justice, perceived distributive justice, and perceived barriers and facilitators to career advancement are significant explanatory variables of the attainment of leadership positions in local and state law enforcement organizations in the State of Florida.*

To test Hypothesis 3, Pearson *r* correlation and stepwise multiple regression analysis were used to examine whether perceived *Procedural* and *Distributive Justice* and *Perceived Barriers and Facilitators to Career Advancement* are significant explanatory variables of the attainment of leadership position. Pearson *r* correlation analysis was conducted on the attainment of leadership position with these 11 variables (see Table 4-33). Six of the variables had significant positive relationships with the attainment of leadership position. These relationships, in order from strongest to weakest, were *Distributive Justice* ( $r = .25$ ), four *Facilitators to Career Advancement* (*Developmental Assignments* [ $r = .23$ ], *Networking* [ $r = .20$ ], *Managing Own Career* [ $r = .20$ ], and *Mentoring* [ $r = .15$ ]), and *Procedural Justice* ( $r = .15$ ). The positive correlation of these significant predictor variables with the dependent variable (attainment of law enforcement position) indicates that as the respondents' position increased, so did their perceptions of *Distributive* and *Procedural Justice* and the *Facilitators to Career Advancement*.

Stepwise linear regression was used to test significant variables in Hypothesis 3. Six explanatory variables (*Distributive Justice*, four *Facilitators to Career Advancement* [*Developmental Assignments*, *Networking*, *Managing Own Career*, and *Mentoring*], and *Procedural Justice*) were identified. The variables were entered according to the value

of the Pearson  $r$  correlation, starting with the strongest and ending with the weakest. This produced the model with the highest explanatory power. Multicollinearity statistics were examined. The Variance Inflation Factor (VIF) was 1.11 for both variables and the tolerance was .90 for both variables.

Table 4-33

*Correlations between the Attainment of Local and State Law Enforcement Leadership Positions and Perceived Procedural Justice, Perceived Distributive Justice, and Perceived Barriers and Facilitators to Career Advancement*

Variables	Pearson $r$	$P$
Distributive Justice	.25	< .01
Procedural Justice	.15	.01
Barriers to Career Advancement		
Difficulty Getting Developmental Assignments	.08	.17
Lack of Cultural Fit	-.04	.55
Excluded from Informal Networks	.05	.43
Poor Management of Career	-.01	.84
Difficulty Obtaining Opportunities for Geographic Mobility	.01	.89
Facilitators to Career Advancement		
Developmental Assignments	.23	< .01
Networking	.20	< .01
Managing Own Career	.20	< .01
Mentoring	.15	.01

Two significant models were produced from the regression analysis (see Table 4-34). Model 2, with two explanatory variables (*Distributive Justice* and *Facilitators to Career Advancement* [*Developmental Assignments*]), was the best explanatory model to explain attainment of leadership position ( $F = 13.14$ ,  $p < .01$ ) having the highest  $R^2$  value of .09 and an adjusted  $R^2$  of .08. Each variable, as it entered into the regression equation, contributed to the  $R^2$ . The first variable to enter the equation, *Distributive Justice*, contributed 6% of the variance in the dependent variable. The *Facilitators to Career Advancement* (*Development Assignments*) contributed an additional 3% of the variance in the dependent variable. Therefore, 8% (adjusted  $R^2$ ) of the variation in the dependent

variable of leadership attainment can be explained by the explanatory variables of *Distributive Justice* and *Facilitators to Career Advancement (Developmental Assignments)* in the model.

Table 4-34

*Multiple Regression Analysis of Perceived Distributive Justice and Perceived Facilitators to Career Advancement Explaining Attainment of Law Enforcement Position*

Model	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	<i>F</i>	$R^2$ Change	$R^2$	$R^2$ Adjusted
1 Constant	.91	.25		3.63	< .01				
Distributive Justice	.05	.01	.25	4.27	< .01				
						18.22 ( $< .01$ )	.06	.07	.06
2 Constant	.53	.28		1.87	.06				
Distributive Justice	.04	.01	.19	3.22	< .01				
Facilitator of Career Advancement Developmental Assignments	.04	.02	.17	2.76	< .01				
						13.14 ( $< .01$ )	.03	.09	.08

The *t* statistic in the final model was significant for *Distributive Justice* ( $t = 3.22$ ,  $p < .01$ ) and *Facilitators to Career Advancement (Developmental Assignments)* [ $t = 2.76$ ,  $p < .01$ ]]. The order of importance of the predictor variables in explaining attainment of leadership position according to the standardized Beta coefficients ( $\beta$ ) were from most important–*Distributive Justice* ( $\beta = .19$ ) to least important–*Facilitators to Career Advancement (Developmental Assignments)*,  $\beta = .17$ ). *Distributive Justice* and one *Facilitator to Career Advancement (Developmental Assignments)* were significant explanatory variables of attainment of leadership position. *Procedural Justice* and *Perceived Barriers* were not significant explanatory variables of attainment of leadership position. Therefore, the hypothesis was partially supported. The best explanatory model found was:

$$\text{Attainment of leadership position} = .53 + .04 (\text{Distributive Justice}) + .04 (\text{Facilitators to Career Advancement-Developmental Assignments}) + e$$

The explanatory model indicates that respondents' perceived scores on the *Distributive Justice* and *Facilitators to Career Advancement (Developmental Assignments)* scales were multiplied by a factor of .04. Therefore, higher scores on the scales indicate higher leadership positions. If a respondent had the average score (see Table 4-35) for each of the two scales, a predicted leadership position would be

$$1.90 = (.53) + .04(20.51) + .04(13.69)$$

The failure of other *Facilitators to Career Advancement* and *Procedural Justice* to enter the regression equation may be attributed to the large sample size ( $n = 286$ ) in the study, which produced significant, but low correlations between the predictor variables and the dependent variable. It may also be attributed to the partial correlations among the remaining dependent variables as significant predictors were built into the final regression model.

Table 4-35

*Correlations between the Attainment of Local and State Law Enforcement Leadership Positions and Organizational Characteristics*

Variables	Correlation	P
Promotion Process	.32 <sup>b</sup>	< .01
Organization Size	-.22 <sup>a</sup>	< .01
Government Affiliation	-.17 <sup>b</sup>	< .01
Union Affiliation	.10 <sup>b</sup>	.10

<sup>a</sup> Pearson  $r$

<sup>b</sup> Point Biserial

#### ***Research Hypothesis 4***

*Organizational characteristics are significant explanatory variables of the attainment of leadership positions in local and state law enforcement organizations in the State of Florida.*

To test Hypothesis 4, Pearson  $r$  correlation, point-biserial correlation, and stepwise multiple regression analysis were used to examine whether *Organizational Characteristics* are significant explanatory variables of the attainment of leadership position. Government affiliation (municipal=0, county=1), union affiliation (nonunion=0, union=1), and promotion process (promotion=0, appointment=1) are dichotomous, dummy variables. Because point-biserial correlation is mathematically equivalent to the Pearson  $r$  correlation analysis, Table 4-35 contains the correlations for all variables and the attainment of leadership position. Three of the four organizational variables were significantly correlated with the attainment of leadership position. These relationships, in order from strongest to weakest, were promotion process ( $r_{pb} = .32$ ), organization size ( $r = -.22$ ), and government affiliation ( $r_{pb} = -.17$ ). Therefore, respondents in smaller, municipal organizations (value = 0), where the promotion process is appointment (value = 1) are more likely to have higher leadership positions.

Stepwise linear regression was used to test significant variables in Hypothesis 4. The variables were entered according to value of the Pearson  $r$  correlation, starting with the strongest and ending with the weakest. This produced the model with the highest explanatory power. Multicollinearity was not an issue. The Variance Inflation Factor (VIF) and tolerance were within acceptable ranges. The Variance Inflation Factor (VIF) was 1.01 for both variables and the tolerance was .99 for both variables. The VIF was

below the established standard of 10 and the tolerance range was over the established standard of.10.

Two significant models were produced from the regression analysis (see Table 4-36). Model 2, with two explanatory variables (promotion process and organization size), was the best explanatory model to explain attainment of leadership position ( $F = 23.23, p < .01$ ) having the highest  $R^2$  value of .14 and an adjusted  $R^2$  of .14. Each variable, as it entered into the regression equation, contributed to the  $R^2$ . The first variable to enter the equation, promotion process, contributed 10% of the variance in the dependent variable. Organization size contributed an additional 4% of the variance in the dependent variable. Therefore, 14% (adjusted  $R^2$ ) of the variation in the dependent variable can be explained by the two organizational explanatory variables in the model.

Table 4-36

*Multiple Regression Analysis of Organizational Characteristics Explaining Attainment of Law Enforcement Position*

Model	B	SE	$\beta$	t	p	F	$R^2$ Change	$R^2$	$R^2$ Adjusted
1 Constant	1.82	.07		25.12	< .01				
Promotion Process	1.71	.30	.32	5.74	< .01				
						32.98 (< .01)	.10	.10	.10
2 Constant	2.61	.24		11.04	< .01				
Promotion Process	1.62	.29	.31	5.53	< .01				
Organization Size	-.23	.07	-.19	-3.49	< .01				
						23.23 (< .01)	.04	.14	.14

The  $t$  statistic in Model 2 was significant for promotion process ( $t = 5.53, p < .01$ ) and organization size ( $t = -3.49, p < .01$ ). The order of importance of the predictor variables in explaining attainment of leadership position according to the standardized Beta coefficients ( $\beta$ ) were from most important (promotion process,  $\beta = .31$ ) to least

important (organization size,  $\beta = -.19$ ). Hypothesis 4 was supported. *Organizational Characteristics* (organizational size and promotion process) are significant explanatory variables of attainment of leadership positions in local and state law enforcement organizations in the State of Florida. The best explanatory model found was

$$\text{Attainment of leadership position} = 1.82 + 1.62 (\text{promotion process}) - .23 (\text{organization size}) + e$$

The explanatory model indicates that if a respondent is in an organization that has an appointment process (value = 1), a value of 1.62 was added to the predicted leadership position. However, as the respondents' organization size increases, a value of .23 is subtracted from the predicted leadership position. Therefore, a respondent in an organization with 100 to 149 members (value = 1) that has an appointment promotion process (value = 1) would receive a predicted leadership position of

$$3.21 = (1.82) + 1.62(1) - .23(1)$$

A respondent in an organization with 200-250 members (value = 3) with no appointment process would receive a predicted leadership position of

$$1.13 = (1.82) + 1.62(0) - .23(3)$$

The failure of other *Organizational Characteristics* to enter the regression equation may be attributed to the large sample size in the study, which produced significant, but low correlations between the predictor variables and the dependent variable. It may also be attributed to the partial correlations among the remaining dependent variables as significant predictors were built into the final regression model.

### ***Research Hypothesis 5***

*Demographic characteristics are significant explanatory variables of the attainment of leadership positions in local and state law enforcement organizations in the State of Florida.*

To test Hypothesis 5, Pearson  $r$  correlation, point-biserial correlation, and regression analysis were used to examine whether race, ethnicity, gender, and age are significant explanatory variables of the attainment of leadership position. Race (White=0, African American=1), ethnicity (not Hispanic=0, Hispanic=1), and gender (male=0, female=1) are dichotomous, dummy variables. Because point-biserial correlation is mathematically equivalent to the Pearson  $r$  correlation analysis, Table 4-37 contains the correlations for all variables with the attainment of leadership position. One variable, age, had a significant relationship with the attainment of leadership position ( $r = .25$ ), indicating that older respondents had higher leadership positions.

Table 4-37

*Correlations between the Attainment of Local and State Law Enforcement Leadership Positions and Demographic Characteristics*

Variables	Correlation	$P$
Age	.25 <sup>a</sup>	< .01
Ethnicity	-.09 <sup>b</sup>	.15
Gender	.01 <sup>b</sup>	.85
Race	.01 <sup>b</sup>	.85

<sup>a</sup> Pearson  $r$

<sup>b</sup> Point Biserial

Simple linear regression was used to test the one significant *Demographic Characteristic* variable in Hypothesis 5 (See Table 4-38). Collinearity statistics were not examined because there was only one variable. The model was significant ( $F = 18.34$ ,  $p < .01$ ).  $R^2$  and adjusted  $R^2$  was .06. Therefore, 6% of the variation in the dependent variable



can be explained by age in the model. The *t* statistic in the model was significant for age (*t* = 4.28, *p* < .01). The standardized Beta coefficient was  $\beta = .25$ . According to the findings, Hypothesis 5 was supported. One *Demographic Characteristic* (age) was a significant explanatory variable of attainment of leadership position in local and state law enforcement organizations in the State of Florida. Older respondents are more likely to have higher leadership positions. The best explanatory model found was attainment of leadership position =  $-.13 + .05 (\text{age}) + e$

Table 4-38

Regression Analysis of Demographic Characteristics Explaining Attainment of Law Enforcement Position

Model	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup> <i>Adjusted</i>
Constant	-.13	.48		-.26	.79			
Age	.05	.01	.25	4.28	< .01			
						18.34 (< .01)	.06	.06

Research Hypothesis 6

*Human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career advancement are significant explanatory variables of attainment of leadership positions in local and state law enforcement organizations in the State of Florida.*

To test Hypothesis 6, the significant variables resulting from Pearson *r* or point-biserial correlations with attainment of leadership position found in Hypotheses 2 through 5 were entered into a stepwise linear regression (see Table 4-39). Fifteen variables were found to be significantly correlated with the dependent variable. Five *Human Capital Assets* and one *Demographic Characteristic* were significantly correlated, indicating a

positive relationship between higher leadership positions and age, a higher knowledge level, and more training, education, experience, and years in the current organization.

Three *Organizational Characteristics* were found to be significantly related to leadership position. Appointed respondents in smaller municipal organizations were more likely to be in higher leadership positions. *Procedural Justice* and *Distributive Justice* were also significantly correlated with the dependent variable. Those respondents in higher leadership positions reported higher perceptions on these two scales. The four *Facilitators to Career Advancement* subscales were also found to be significantly correlated with leadership position, indicating a positive relationship between higher leadership positions and higher, positive perceptions of *Developmental Assignments*, *Networking*, *Managing Own Career*, and *Mentoring*.

Table 4-39

*Significant Correlations Between the Attainment of Local and State Law Enforcement Leadership Positions and Human Capital Assets, Demographic Characteristics, Organizational Characteristics, Procedural Justice, Distributive Justice, and Facilitators to Career Advancement*

Variable	Correlation	P
Human Capital Assets		
Training	.41 <sup>b</sup>	< .01
Education	.40 <sup>a</sup>	< .01
Experience	.31 <sup>a</sup>	< .01
Knowledge Level	.27 <sup>a</sup>	< .01
Years Within Organization	.12 <sup>a</sup>	<.05
Demographic Characteristics		
Age	.25 <sup>a</sup>	< .01
Organizational Characteristics		
Promotion Process	.32 <sup>b</sup>	< .01
Organization Size	-.22 <sup>a</sup>	< .01
Government Affiliation	-.17 <sup>b</sup>	.01
Procedural Justice	.15 <sup>a</sup>	.01
Distributive Justice	.25 <sup>a</sup>	< .01
Facilitators to Career Advancement		
Developmental Assignments	.23 <sup>a</sup>	< .01
Networking	.20 <sup>a</sup>	< .01
Managing Own Career	.20 <sup>a</sup>	< .01
Mentoring	.15 <sup>a</sup>	.01

<sup>a</sup> Pearson *r*

<sup>b</sup> Point Biserial

Fifteen explanatory variables were entered according to value of the Pearson *r* correlation, starting with the strongest and ending with the weakest. This produced the model with the highest explanatory power. Multicollinearity was not an issue. The Variance Inflation Factor (VIF) and tolerance were within acceptable ranges. The range of the Variance Inflation Factor (VIF) was 1.01 to 2.06. The tolerance ranged from .49 to

.99. The VIF was below the established standard of 10 and the tolerance range was over the established standard of .10.

Seven significant models were produced from the regression analysis (see Table 4-40). Model 7, with seven explanatory variables (*Human Capital Assets* of training, education, years in current organization, and years of experience, *Distributive Justice*, and *Organizational Characteristics* of promotion process and organization size), was the best explanatory model to explain attainment of leadership position ( $F = 31.98, p < .01$ ), having the highest  $R^2$  value of .45 and an adjusted  $R^2$  of .43. Each variable, as it entered into the regression equation, contributed to the  $R^2$ . The first variable to enter the equation, the *Human Capital Assets* variable of training, contributed 17% of the variance in leadership position. Education, another *Human Capital Assets* variable, contributed an additional 9%; *Distributive Justice* contributed 6% more; a third *Human Capital Assets* variable, years of experience, contributed 4%; the *Organizational Characteristics* of promotion process and organization size contributed another 4% and 3%, respectively; and, finally, years in the current organization, another *Human Capital Assets*, contributed 1%. Therefore, 43% (adjusted  $R^2$ ) of the variation in the dependent variable can be explained by the seven explanatory variables in the model.

The  $t$  statistic in Model 7 was significant for training ( $t = 4.40, p < .01$ ), education ( $t = 5.78, p < .01$ ), *Distributive Justice* ( $t = 5.54, p < .01$ ), experience ( $t = 5.30, p < .01$ ), promotion process ( $t = 4.23, p < .01$ ), organization size ( $t = -3.85, p < .01$ ), and years in current organization ( $t = 2.55, p = .01$ ). The order of importance of the predictor variables in explaining attainment of leadership position according to the standardized Beta coefficients ( $\beta$ ) were from most important to least important: experience ( $\beta = .34$ ),

education ( $\beta = .27$ ), *Distributive Justice* ( $\beta = .25$ ), training ( $\beta = .22$ ), promotion process ( $\beta = .20$ ), organization size ( $\beta = -.18$ ), and years in the current organization ( $\beta = -.16$ ).

Table 4-40

*Multiple Regression Analysis of Human Capital Assets, Demographic Characteristics, Organizational Characteristics, Procedural Justice, and Distributive Justice Explaining Attainment of Law Enforcement Position*

Model	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	<i>F</i>	$R^2$ Change	$R^2$	$R^2$ Adjusted
1 Constant	1.60	.08		19.83	< .01				
Training	1.13	.15	.41	7.54	< .01				
						56.88 ( $< .01$ )	.17	.17	.16
2 Constant	.26	.24		1.11	.27				
Training	.91	.15	.33	6.25	< .01				
Education	.48	.08	.31	5.92	< .01				
						49.34 ( $< .01$ )	.09	.26	.25
3 Constant	-.80	.31		-2.60	.01				
Training	.92	.14	.33	6.59	< .01				
Education	.49	.08	.32	6.22	< .01				
Distributive Justice	.05	.01	.25	5.16	< .01				
						44.77 ( $< .01$ )	.06	.32	.32
4 Constant	-1.49	.34		-4.44	< .01				
Training	.82	.14	.30	5.99	< .01				
Education	.46	.08	.30	6.06	< .01				
Distributive Justice	.05	.01	.25	5.19	< .01				
Experience	.04	.01	.22	4.44	< .01				
						40.74 ( $< .01$ )	.04	.37	.36
5 Constant	-2.38	.39		-6.06	< .01				
Training	.74	.14	.27	5.50	< .01				
Education	.41	.08	.27	5.50	< .01				
Distributive Justice	.05	.01	.25	5.31	< .01				
Experience	.03	.01	.21	4.36	< .01				

Table 4-40 Continued

Model	B	SE	$\beta$	t	p	F	R <sup>2</sup> Change	R <sup>2</sup>	R <sup>2</sup> Adjusted
Promotional Process	1.03	.25	.20	4.08	< .01	37.74 ( $< .01$ )	.04	.40	.39
6 Constant	-1.72	.42		-4.08	< .01				
Training	.62	.14	.22	4.54	< .01				
Education	.43	.07	.28	5.83	< .01				
Distributive Justice	.05	.01	.26	5.68	< .01				
Experience	.04	.01	.23	4.86	< .01				
Promotion Process	.98	.25	.18	3.95	< .01				
Organization Size	-.22	.06	-.18	-3.87	< .01	35.52 ( $< .01$ )	.03	.43	.42
7 Constant	-1.63	.42		-3.91	< .01				
Training	.59	.13	.22	4.40	< .01				
Education				5.78	< .01				
Distributive Justice	.42	.07	.27	5.54	< .01				
Experience	.05	.01	.25	5.30	< .01				
Promotion Process	.06	.01	.34	4.23	< .01				
Organization Size	1.04	.25	.20			31.98			
Years in Organization	-.21	.06	-.18	2.55	.01	( $< .01$ )	.01	.45	.43
Organization	-.03	.01	-.16						

Hypothesis 6 was partially supported. *Human Capital Assets*, *Demographic Characteristics*, *Organizational Characteristics*, and *Distributive Justice* were found to be significant explanatory variables of attainment of leadership positions in local and state law enforcement organizations in the State of Florida. However, neither *Procedural Justice* nor any *Facilitators* or *Barriers to Career Advancement* were found to be significant explanatory variables. The best explanatory model found was

$$\begin{aligned} \text{Attainment of leadership position} = & -1.63 + .59 (\text{training}) + .42 (\text{education}) \\ & + .05 (\text{Distributive Justice}) + .06 (\text{experience}) + 1.04 (\text{promotion process}) \\ & - .21 (\text{organization size}) - .03 (\text{years in current organization}) + e \end{aligned}$$

The explanatory model indicates that if a respondent received training at the FBI or Southern Police Institute a value of .59 is added to the predicted leadership position.

For each level of education, a respondent receives .42, and a score on the *Distributive Justice* scale is multiplied by a factor of .05. For each year of experience, a respondent receives .06. A respondent in an organization where appointments are made receives 1.04. The negative regression coefficient for organization size indicates that the larger the organization the possibility of higher leadership diminishes. In addition, the negative regression coefficient for years in the organization indicates that for each year in the organization, a value of .02 is subtracted. Therefore, a respondent who received training at the FBI or the Southern Police Institute (value = 1), with a college degree (value = 3), a high score on the *Distributive Justice Scale* (highest score = 30), 25 years of law enforcement experience, in a small organization (100-149 members, value = 1) with an appointment process (value = 1), and 20 years in the current organization would receive a predicted leadership position of

$$3.45 = -1.63 + .59 (1) + .42 (3) + .05 (30) + .06 (25) + 1.04 (1) - .21 (1) - .03 (20)$$

However, a law enforcement officer with training somewhere other than at the FBI or the Southern Police Institute (value = 0) with a college degree (value = 3), an average score on the *Distributive Justice Scale* ( $M = 20$ ), 20 years of law enforcement experience, in a larger organization (200-249 members, value = 3) with a promotion process (value = 0), and 5 years in the current organization would receive a predicted leadership position of

$$1.05 = -1.63 + .59 (0) + .42 (3) + .05 (20) + .06 (20) + 1.04 (0) - .21 (3) - .03 (5)$$

Considering that the attainment of leadership position is scaled from 1 (*Sergeant*) to 5 (*CEO/Assistant Chief*), receiving training from the FBI or the Southern Police Institute, possessing a college or professional degree, accruing years of experience,

having a high perception of *Distributive Justice*, and being in a smaller organization with an appointment process predicts a higher level of leadership. The negative regression coefficient for years in current organization, although small, may indicate that tenure in the organization is not as valued as other variables.

In Chapter IV, descriptive statistics of the sample and psychometric measure of each of the scales used in this research were presented. Research questions were answered and hypotheses were analyzed. A discussion of the findings, which include a summary and interpretations, implications, conclusions, and recommendations for future study, will be presented in Chapter V.



## **CHAPTER V: DISCUSSION**

Presented in Chapter V is a discussion of the results reported in Chapter IV. This study examines the relationship among human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career, and the attainment of leadership positions in state and local law enforcement organizations in the State of Florida.

The specific purpose of this non-experimental, exploratory (comparative) and explanatory (correlational) online survey research were to (a) describe the human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, perceived barriers and facilitators to career advancement and the attainment of leadership positions in local and state law enforcement organizations in the State of Florida (b) to determine if there are differences in human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career advancement and the attainment of leadership positions in local and state law enforcement organizations in the State of Florida according to organizational characteristics (c) to determine whether there are differences in human capital assets, demographic characteristics, organizational characteristics, perceived distributive justice, procedural justice, perceived barriers to career advancement and perceived facilitators to career advancement and the attainment of leadership positions according to race and gender within local and state law enforcement organizations in the State of Florida (d) to determine if human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career advancement are

significant explanatory variables of the attainment of leadership positions within local and state law enforcement organizations in the State of Florida. A fifth purpose was to contribute to the empirical validity of Cotter, Hermsen, Ovadia , and Vanneman's (2001) criterion based glass ceiling propositions of the glass ceiling effect.

Two research questions and six hypotheses with sub hypotheses were developed and tested. This study used an online survey research design. The six-part online survey contained 72 items. Part 1 of the survey, measuring *Human Capital Assets*, contained five items. The five items were highest educational level, level of advanced training, law enforcement experience in years, knowledge level, and tenure within the organization. Part 2, *Demographic Characteristics*, contained four items: race ethnicity, gender, and age. *Organizational Characteristics*, of each law enforcement organizations are measured in Part 3. The items contained in this part are organization size, state or local affiliation, union affiliation, and promotional process.

Part 4 of the survey, which measures *Procedural Justice*, utilize six items from the *Procedural and Interactional Justice Scale* developed by Moorman (1991). Part 5 measures *Distributive Justice* and utilizes the *Distributive Justice Index Scale* developed by Price and Mueller (1996). The scale contains six items. *Perceived Barriers and Facilitators to Career Advancement* is measured in Parts 6a and 6b of the survey. The *Perceived Barriers and Facilitators to Career Advancement Scale* was developed by Lyness and Thompson (2000). Part 6a: *Perceived Barriers to Career*

*Advancement* contains 26 items. Part 6b: *Perceived Facilitators to Career*

*Advancement* contained 21 items.

*Attainment of Leadership Positions* was measured with a single-item scale created by the researcher. The Leadership Attainment Scale originally contained a single item with seven responses about the rank attained by each participant within law enforcement organizations. Because of small sample sizes in four of the seven categories of the attainment of leadership positions variables, the seven responses were collapsed into five for comparative and correlational analyses.

Prior to answering the research questions and testing hypotheses, reliability and validity analyses were conducted on each of the five scales. Chapter V begins with the summary and interpretations of the findings followed by the practical implications, conclusions, limitations, and recommendations for future study.

## **Summary and Interpretations**

### ***Data Producing Sample***

Approximately 1500 e-mail invitations were sent to full time law enforcement officers holding the rank of sergeant and above in 75 state and local law enforcement organizations within the State of Florida whose chief executive officer provided e-mail addresses. There were 428 officers participating. Two hundred and ninety three valid responses were received. Two respondents were from state organizations and five identified themselves as American Indian, Asian, or Pacific Islander, too few to include in the analysis. Therefore, a total of 286 (68%) responses were used for data analysis

procedures. The geographic location of the departments whose chief executive officers provided e-mail addresses ranged from southern Miami- Dade County to the northern Duval County. Forty of the sixty-seven counties in the State of Florida were represented. Law enforcement organizations within the western and eastern portion of the State of Florida also provided email addresses.

### ***Psychometric Evaluation of Measures***

#### ***Procedural Justice Scale: Reliability and Validity***

*Procedural Justice* in this study was measured using the *Procedural Justice Scale* (Moorman, 1991). Construct validity of the 6-item *Procedural Justice Scale* was established using principal component analysis. All six items loaded on one component with an eigenvalue greater than 1. The factor explained 73.94% of the total variance. The factor loadings of the six items ranged from 0.80 to 0.93. The single-factor structure of the *Procedural Justice Scale* was established, providing evidence of construct validity.

The internal consistency reliability of the *Procedural Justice Scale* was analyzed using Cronbach's coefficient alpha. The coefficient alpha value for the scale was 0.93, greater than the standard of 0.70 reported by Nunally and Bernstein (1994). The alpha did not improve beyond 0.93 if any of was deleted. All six items were retained.

The results in this study are consistent with those in the Moorman (1991) study where confirmatory factor analysis for each item in the *Procedural Justice Scale* was above .80. The coefficient alpha value in the Moorman study was greater than .90 as well. Similar findings are reported in an earlier study by (Folger & Greenberg, 1985). Because the high factor loadings for each of the items and coefficient alpha values

greater than the established standard, evidence of construct validity and internal consistency reliability is provided.

#### ***Distributive Justice Scale:***

Distributive Justice was measured using the 6-item *Distributive Justice Scale* adopted from the *Distributive Justice Index* (Price & Mueller, 1996). Construct validity was established using principle component analysis all six items loaded on one component with an eigenvalue greater than 1. The factor analysis explained 81.85% of the total variance. The factor loadings for the six items ranged from 0.87 to 0.94. This is consistent with previous research by Tai and Sim's (2005) who used the *Distributive Justice Scale* exploratory factor analysis showed high factor loadings for one factor as well which was associated with justice and all were greater than 0.80.

Internal consistency reliability was analyzed using Cronbach's coefficient alpha which was 0.96. The alpha did not improve beyond 0.95 if any item was deleted. Cronbach's coefficient alpha in this study improved beyond that in the Tai and Sims (2005) study which was .82.

#### ***Perceived Barriers to Career Advancement Scale: Reliability and Validity***

The *Perceived Barriers to Career Advancement Scale* was measured using the *Perceived Barriers to Career Advancement Scale* (Lyness & Thompson, 2000) which contained 26 items organized into six subscales: (1) Lack of Culture Fit (seven items), (2) Excluded From Informal Networks (two items), (3) Lack of Mentoring (four items), (4) Poor Organizational Career Management Processes (three items), (5) Difficulty Getting Developmental Assignments (seven items), and (6) Difficulty Obtaining Opportunities

For Geographic Mobility Opportunities (three items). Construct validity was tested using principal component analysis. The 26 items loaded on five factors with eigenvalues greater than 1. The five factors explained 72.34% of the total variance.

All original items loaded onto four of the original factors (Lack of Culture Fit, Excluded from Informal Networks, Difficulty Getting Developmental Assignments, and Difficulty Obtaining Opportunities for Geographic Mobility Opportunities). However, items of the Poor Organizational Career Management Processes subscale and the Lack of Mentoring subscale loaded on the same factor, reducing the number of factors to five subscales instead of the six developed from models by Lyness and Thompson (2000). The new factor was named Poor Management of Career. The revised *Perceived Barriers to Career Advancement Scale* using the four original subscales and the new Poor Management of Career subscale were used to answer research questions and test hypotheses. The coefficient alpha values of the five subscales ranged from 0.88 to 0.95 and the total *Perceived Barriers to Career Advancement Scale* coefficient alpha was 0.95 which were higher than that reported by Lyness and Thompson (2000) reported liabilities for the six subscales ranging from 0.69 to 0.84.

#### ***Perceived Facilitators to Career Advancement***

Lyness and Thompson's (2000) perceived *Facilitators to Career Advancement Scale* was also used in this study. The *Perceived Facilitators to Career Advancement Scale* contains 21 items organized into five subscales: (a) Developing Relationships (four items), (b) Managing Own Career (four items), (c) Mentoring (eight items), (d) Developmental Assignments (four items), and (e) Having a Good Track Record (one item). Construct validity was tested using principal component analysis. The 21 items

loaded on four factors with eigenvalues greater than 1. The four factors explained 77.54% of the total variance. All items loaded on their original factors, with the exception of the single item of *Having a Good Track Record*. This item loaded onto the same factor as the four items of the Developing Relationships subscale, reducing the number of factors (and respective subscales) to four instead of the five developed from models by Lyness and Thompson (2000). The new subscale created from the two original subscales was named Networking.

The internal consistency reliability of the four subscales was analyzed using Cronbach's coefficient alpha. The values of the four subscales ranged from 0.86 (Networking) to 0.96 (Mentoring) and the total scale value was 0.96. Lyness and Thompson (2000) reported reliabilities for the four scales ranging from 0.70 (Developing Relationships) to 0.90 (Mentoring). The modified scale was used in this study to answer research questions and test hypotheses.

### ***Convergent and Divergent Validity of Scales***

In addition, divergent validity was established by correlating the *Perceived Justice to Career Advancement* (higher barriers scores are associated with more problems in career advancement) and *Perceived Facilitators to Career Advancement* (higher facilitator scores are associated with more facilitators to career advancement). Therefore and inverse relationship was expected. Pearson *r* correlations were obtained between the total scores and subscale scores of each scale. A number of the values obtained were statistically significant for an inverse relationship and almost all of the correlations between the two scales were inverse relationships.

In this study, one group, African American female reported the most perceptions of barriers to career advancement specifically in the *Lack of Culture Fit* subscale. They further reported less facilitators than any other group thus supporting this inverse correlation between the two scales. Likewise, White Males reported perceptions of more facilitators and perceptions of fewer barriers to career advancement

### ***Attainment of Leadership Positions Scale***

Attainment of Leadership Positions was measured by a single item with seven responses. The original categories were (1) Chief Executive Officer (2) Assistant Chief (3) Commander (4) Major (5) Captain (6) Lieutenant (7) Sergeant. Because of the small sample sizes in four of the categories, the seven categories were collapsed into five rank ordered groups were 1 = CEO/Assistant Chief ( $n = 26$ ), 2 = Major/Commander ( $n = 14$ ), 3 = Captain ( $n = 22$ ), 4 = Lieutenant ( $n = 79$ ), and 5 = Sergeant ( $n = 150$ ). In an attempt to determine convergent and divergent validity of attainment of law enforcement position, Pearson  $r$  correlations were conducted with age, perceived procedural justice, distributive justice, and tenure. The attainment of law enforcement positions was positively correlated with Age ( $r = .25, p < .01$ ) indicating older officers held higher positions, perceived more procedural justice ( $r = .15, p = .01$ ) and distributive justice ( $r = .25, p < .01$ ).had better perceptions of procedural and distributive justice. These expected relationships provide evidence of the convergent validity with the attainment of *law enforcement leadership position*, single item scale.



## ***Research Questions***

### ***Research Question 1 Summary and Interpretation***

Research questions1 examined the human capital assets, demographic characteristics, organizational characteristics, perceptions of procedural justices, distributive justice, and barriers and facilitators of the respondents.

***Human Capital Assets.*** Two thirds of the respondents had at least a 4-year college degree. More than 70% of the respondents indicated that they had trained at another institution, other than the FBI or Southern Police Institute. More than 90% of the respondents indicated that their knowledge level were above average or advanced. The officers indicated that they had at least 5 years of experience, with an average of 20.6 years. They have been with their current organization between 1 and 35 years, with an average of 18.6 years. The fact that more than 70% of respondents indicated that they received training at institutions other than the FBI or Southern Police Institute was not predictable The FBI and Southern Police Institute are recognized throughout the world as the premier law enforcement training academies [FBI], 2006. Human capital assets such as education, training, and tenure were very significant explanatory variables in the attainment of leadership positions in local and county law enforcement organizations for all respondents in this study. In other studies (Rumberger & Thomas, 1993; Soloman & Wachtel, 1975) education was only considered relevant if there were differences in the level of education between gender and racial groups. The data reference human capital assets and racial and gender differences were not analyzed by racial and gender groups in this study and cannot be considered relevant until there is further analysis.

***Demographic Characteristics.*** The target population for this study was selected based on data from the US Department of Justice, Office of Justice Program's statistics (2004). The majority of the respondents in this study were White (79%). Approximately 1% indicated that they were not either White or African American. Fewer than 5% of the respondents indicated that they were Hispanic. Department of justice statistics reported 87% of law enforcement officers within the 75 selected local and state law enforcement organizations in the State of Florida were white. American Indians, Asians and, Hawaiian/Pacific Islander combined averaged less than one percent, (as did those in this study). African Americans averaged 12% which is significantly different than the 21% in this present study.

One in every five respondents indicated they were female in this study. The same Department of Justice statistics indicated that females made up on average 20% of the law enforcement officers within these same law enforcement organizations, which again is different significantly different from the target population of 12% reported by the Department of Justice statistics, more females responded in this study . The age of the respondents in this study ranged from 26 to 65 with an average age of 44.7 years ( $SD = 6.69$ ). The statistics reference age is unique to this study. The respondents in this study may not be a good representation of the target population. A summary and comparison of the demographic characteristics in this study are presented in Table 5-1.

Table 5-1

*Demographic Characteristics of Study Participants Compared to Target Population obtained from Office of Justice Program Statistics for Local and County Law Enforcement Organizations in the State of Florida*

Demographic	Department of Justice	Present Study	Difference
Race			
White	87%	79%	-9%
Black	12%	21%	+9%
Ethnicity			
Hispanic Any Race	11%	4%	-7%
Gender			
Male	88%	80%	-8%
Female	12%	20%	+8%

Source: US Department of Justice Office of Justice Programs

**Organizational Characteristics.** Most of the officers were in organizations of 250 or more employees (70%) and were employed by county governments (55%). Though this study solicited participation from agencies employing more than 100 full time law enforcement officers, it was not predicted that more than 70% of the respondents would indicate that they belonged to organizations with more than 250 employees. The 75 county and local law enforcement organizations in the state of Florida invited to participate in this study were comprised of 40 municipal police organizations, 34 sheriff's Departments and 1 county law enforcement organization. Only two officers were in state organizations. In previous studies it was reported that the majority of law enforcement officers within the State of Florida were employed within smaller organizations

[FBI, 2004]. Most officers reported that they were affiliated with a union (85%) and that they were promoted (94%) instead of appointed (6%). This is the first study that has examined the organizational characteristics of union affiliation and promotional process. The findings promote the structured processes involving rules, regulations and policies within law enforcement organizations mandated by labor unions. One of the more important practices are promotional processes. Attainment of leadership positions are achieved through promotions which are favored over subjective appointments.

***Perceptions of Procedural and Distributive Justice and Facilitators and Barriers of Career Advancement.*** On average, respondents indicated a moderate perception of procedural justice and distributive justice. Their average responses to the *Perceived Facilitators and Barriers of Career to Advancement* scales showed a perception of moderate facilitation and few barriers. Higher scores were associated with better perceptions of procedural justice; higher scores were also associated with better perceptions of distributive justice. This indicates, as an aggregate, perceptions of the glass ceiling effect as in previous research may not be detected within an organization. This research question was not designed to answer differences among racial and gender groups concerning perceptions of procedural and distributive justice or barriers and facilitators to career advancement. Those differences are tested in Research Hypothesis 1. However, similar studies such as Tai & Sims (2005) tested distributive justice as one of the variables to uncover the Glass Ceiling Effect in high technology companies. The findings in their study showed no significant differences in the perceptions among males and females. Similarly, Moorman (1991) in a Midwestern study on employees in the painting industry found that procedural justice was not significantly relevant to

organizational citizenship behavior. Contrarily, Lyness & Thompson (2000) found that there were significant differences in perceptions of barriers and facilitators to career advancement between males and females even when developmental and career histories were similar. These findings are further discussed in research question 1.

### ***Research Question 2 Summary***

This study is the first to examine differences in human capital assets, demographic characteristics, perceptions of procedural justice, distributive justice, and barriers and facilitators to career advancement according to local and county law enforcement organizational characteristics in the State of Florida.

#### ***Differences in Type of Advanced Training by Organizational Characteristics.***

Chi-square analysis of the distribution of respondents' advanced training indicated a significant difference according to government affiliation, union affiliation, and promotion process. There were significant differences in the type of advanced training by government affiliation ( $\chi^2 = 14.58, p < .01$ ) and union affiliation ( $\chi^2 = 6.10, p = .01$ ). Officers employed by county governments or affiliated with unions were more likely to have received training somewhere other than at the FBI or at the Southern Police Institute. Significant differences were found in the type of advanced training by promotion process ( $\chi^2 = 9.44, p < .01$ ). Officers with appointed positions were more likely to have received advanced training from the FBI or the Southern Police Institute, while those who obtained their jobs through promotion were more likely to have obtained their training from somewhere other than the FBI or the Southern Police Institute. Significant differences in organization size were found between the types of advanced training. ( $t = 3.67, p < .01$ ). Respondents who received their advanced training at the FBI

or Southern Police Institute were in significantly smaller organizations ( $M = 3.00$ ) than those who received their training elsewhere ( $M = 3.52$ ). Majority of respondent's were lower level leaders (sergeants) who were promoted to their positions as opposed to executive leaders who are frequently appointed, The findings indicate lower level leaders receive less advanced training than executive or higher level leaders.

***Differences in Education, Years of Experience, Years Within Current***

***Organization, Knowledge Level, and Attainment of Leadership Position by***

***Organizational Characteristics.*** Independent  $t$  test analyses of the human capital assets of education, years of experience, years within current organization, knowledge level, and attainment of leadership position by the union affiliation, promotion process, and government affiliation were conducted. The results showed that respondents in nonunion organizations had significantly more years of experience than those with union affiliation. The same group also reported more years within the current organization than those with union affiliation. Those with appointed positions had more years of experience within their current organizations than those who were promoted.

Respondents who were promoted to their position reported a significantly higher knowledge level than respondents who were appointed to their position. However, those who reported being appointed to their position were in significantly higher positions (attainment of position) than those who reported that they were promoted. Respondents in municipal organizations reported significantly higher positions (attainment of position) than the respondents in county organizations did. Respondents who were in appointed positions and in municipal organizations tended to have significantly more education than those who were promoted to their position or who worked in county organizations.

The relationship between the human capital assets of education, experience, knowledge level, years of experience, and attainment of leadership positions and organizational size was measured by Pearson  $r$  correlations. The only significant relationship was found between the attainment of leadership positions and organizational size ( $r = .21, p < .01$ ). An Inverse relationship, indicating respondents in smaller organizations were more likely to be in higher leadership positions.

***Demographic Characteristics by Organizational Size.*** In this study, the researcher attempted to obtain a demographically diverse group of respondents by inviting only organizations within the State of Florida with 100 or more sworn law enforcement officers. The researcher expected more demographic diversity would be found in larger organizations as opposed to smaller organization. There was no significant relationship between age ( $r = .07, p = .25$ ) and organizational size. Independent  $t$  test analyses of the demographic characteristics of race, ethnicity, and gender by organizational size were conducted. A significant difference was between white and African Americans. African Americans worked in larger organizations. Males and females work in organizations of similar sizes, as do respondents of different ethnicities.

Findings in this study are not consistent with those of Langer (2000) who reported that the size of a company has an effect not only on differences in pay but also on pay itself (Langer, 2000). Though not in the field of law enforcement, a study by Bertrand and Hallock (2001) found that in larger companies, size explained seventy-five percent of the wage gap between male and female leaders. They further found that women were less

likely to become leaders, i.e., chief executive officers, chairs, vice chairs, or presidents of these companies.

***Race, Ethnicity, and Gender by Government Affiliation, Union Affiliation, and Promotion Process.*** Chi-square analyses of the distribution of respondents' race, ethnicity, and gender did not find significant differences by government affiliation. There were no differences in the proportion of Hispanic and not Hispanic or male and female respondents in the different government organizations. However, a larger percentage of African Americans reported being employed in county organizations (25%) than in municipal organizations (15%). Chi-square analyses of the distribution of respondents' race, ethnicity, and gender did not find significant differences by union affiliation. There were no differences in the proportion of Hispanic and not Hispanic or male and female respondents in union and nonunion organizations. However, more African Americans reported being employed in union organizations (23%) than in nonunion organizations (7%).

Chi-square analyses of the distribution of respondents by race, ethnicity, and gender did not find significant differences by promotion process. There were no differences in the proportion of White and African American, Hispanic and not Hispanic, or male and female respondents in positions that were by promotion or by appointment. The results of independent *t* test analyses of the demographic characteristic of age by union affiliation, promotion process, and government affiliation showed that there were no significant differences in age between the different organizational characteristics.

***Relationships between Perceptions of Procedural Justice, Distributive Justice, Facilitators to Career Advancement, Barriers to Career Advancement and***



**Organizational Characteristics.** Pearson  $r$  correlation analyses were conducted to determine if there were relationships between *Procedural Justice*, *Distributive Justice*, perceived facilitators of career advancement, and perceived barriers of career advancement and organization size. There were no significant relationships between the variables. The results of independent  $t$  test analyses of the perceptions of *Procedural Justice* and *Distributive Justice* and perceived facilitators and barriers of career advancement by union affiliation found significant differences in respondents' perceptions of *Procedural Justice* by union affiliation. Respondents in nonunion organizations perceived higher procedural justice than respondents in union organizations did. There were no significant differences in distributive justice or the facilitators and barriers of career advancement based on union affiliation.

A significant difference in perceptions of lack of cultural fit was found. There were no further significant differences in the perceptions of barriers and facilitators to career advancement, or procedural justice or distributive justice between those respondents who gained positions through promotion and those respondents who were appointed. Results of independent  $t$  test analyses showed that there were no significant differences in the perceptions of the facilitators and barriers to career advancement or procedural and distributive justice between those respondents who are employed by municipal governments and those respondents who are employed by county governments. Independent  $t$  test analyses of the perceptions of procedural justice and distributive justice and facilitators and barriers of career advancement by government affiliation were conducted. There were no significant differences in the perceptions of the facilitators and barriers to career advancement or procedural and distributive justice

between those respondents who are employed by municipal governments and those respondents who are employed by county governments.

### ***Research Hypotheses***

#### ***Research Hypothesis 1***

***Differences in Perceived Procedural Justice Perceived Distributive Justice, Perceived Barriers and Facilitators to Career Advancement and Attainment of Leadership Positions According to Gender.*** For research hypothesis H1<sub>a</sub> independent *t* tests were used to determine if differences in perceptions of procedural justice, distributive justice, barriers and facilitators to career advancement, and the attainment of leadership positions existed between males and females. The only significant finding was for the barrier to career advancement subscale of *Lack of Cultural Fit*,  $p < .01$ . Females reported more barriers than males did. There were no further significant differences between males and females. Hypothesis H1<sub>a</sub> is partially supported.

Though only one subscale showed significant findings, it is probably the most significant scale being tested. *Lack of Cultural Fit* contains six of the most significant measures (items) which create barriers to the attainment of leadership positions for females in law enforcement. These items include, feeling pressure to fit in or adapt the culture of law enforcement, few role models, feeling like you are an outsider, not feeling comfortable asserting your views because of possible consequences, feeling like you are held to higher standards than others, and people tend to recommend and select people like themselves.

These findings are consistent with the Lyness and Thompson (2004) study, from which the *Barriers to Career Advancement Scale* and its subscale *Lack of Culture Fit*

were adopted. The results of the analysis of male and female executives were almost identical. Women reported that lack of culture fit,  $t(96) = 1.93$ ,  $p < .05$ , were significantly greater barriers to advancement than men. Additionally in this particular study they also found that lack of geographic mobility was significant in other studies (Yoder, 1991; Zimmer, 1988) women would face at least six specific barriers to career advancement, chief among them were not a good fit with a culture dominated by males. Hypothesis H1<sup>a</sup>

***Differences in Perceived Procedural Justice Perceived Distributive Justice, Perceived Barriers and Facilitators to Career Advancement and Attainment of Leadership Positions According to Race.*** Analysis of three of the five barriers to career advancement (*Lack of Cultural Fit, Difficulty Getting Developmental Assignments, and Difficulty Obtaining Opportunities for Geographic Mobility*) found significant differences between White and African American respondents  $p < .01$  for all three scales. Hypothesis H1<sub>b</sub> was partially supported. African American respondents, on average, reported more barriers than White respondents did. Additionally, African Americans reported, on average, more total barriers than White respondents did. However, African Americans reported significantly higher facilitators in *Mentoring* and total facilitators than White respondents did, where it was hypothesized that they would perceive fewer facilitators.

***Differences in Perceived Procedural Justice Perceived Distributive Justice, Perceived Barriers and Facilitators to Career Advancement and Attainment of Leadership Positions According to Racial and Gender Groups.*** Analysis using 14 one way ANOVA tests were performed to determine if there were significant differences in perceived procedural justice, perceived distributive justice, perceived barriers to career

advancement, perceived facilitators to career advancement, and attainment of leaderships positions according to the demographic characteristics of the racial and gender groups (White male, White female, African American male, and African American female).

Hypothesis H1<sub>c</sub> was partially supported. There were no significant differences among the groups in perceptions of procedural justice and distributive justice. However, there were significant differences in the barriers to career advancement subscale of *Lack of Culture Fit*. Post Hoc comparison,  $p < .05$ , showed that White males reported fewer barriers while White females and African American males and females reported approximately the same number of barriers within this subscale.

The results for the subscale *Difficulty Obtaining Opportunities for Geographic Mobility* showed that White/Other males and females reported fewer barriers than did African American males and females. White/Other males and females reported significantly fewer total barriers than African American males which partially supports hypothesis H1<sub>c</sub> as well. African American males reported more facilitators in *Mentoring* than did African American females and White males and females did, where it was hypothesized that as follows: White males > African-American males > White females > African-American females. Studies such as Tai & Sims (2005) tested distributive justice as one of the variables to uncover the Glass Ceiling Effect in high technology companies. The findings in their study showed no significant differences in the perceptions among males and females. Similarly, Moorman (1991) in a Midwestern study on employees in the painting industry found that procedural justice was not significantly relevant to organizational citizenship behavior. Lyness & Thompson (2000) found that there were significant differences in perceptions of barriers and facilitators to

career advancement between males and females even when developmental and career histories were similar. Race was not a variable in these previous studies. A summary of the hypotheses testing for Hypotheses H1<sub>a</sub>- H1<sub>c</sub> are presented in table 5-1.

Table 5-2

*Summary of Hypotheses 1 Testing: Differences in Procedural Justice, Distributive Justice, Facilitators, Barriers to Career Advancement, and Attainment of Leadership Positions According to Gender Groups*

Hypotheses	Significance	Results	Race/Gender/Group	Variable
<b>H1<sub>a</sub></b> There are significant differences in perceived procedural justice, distributive justice, barriers and facilitators to career advancement, and the attainment of leadership positions according to gender	<.01	<b>Partially Supported</b>	<b>Females</b>	Barriers to Career Advancement ( <i>Lack of Culture Fit</i> subscale)
<b>H1<sub>b</sub></b> There are significant differences in perceived procedural justice, distributive justice, barriers and facilitators to career advancement, and the attainment of leadership positions according to Race	.01, .01, .01, .05	<b>Supported</b>	<b>African Americans</b>	Barriers to Career Advancement, four subscales ( <i>Lack of Culture Fit, Excluded from Informal Networks, Difficulty Obtaining Opportunities for Geographic Mobility</i> )

Table 5-2 Continued

Hypotheses	Significance	Results	Race/Gender/Group	Variable
<b>H1<sub>c</sub></b> There are significant differences in perceived procedural justice, distributive justice, barriers and facilitators to career advancement, and the attainment of leadership positions according to racial and gender groups	<.01	<b>Partially Supported</b>	<b>Females</b>	Barriers to Career Advancement ( <i>Lack of Culture Fit</i> subscale)

### ***Research Hypothesis 2***

#### ***Human Capital Assets as Significant Explanatory Variables of the Attainment of Leadership Positions.***

To test Hypothesis 2, Pearson *r* correlation, point-biserial correlation, and stepwise multiple regression analysis were used to examine whether human capital assets are significant explanatory variables of the attainment of leadership positions. All five of the independent variables were significantly correlated with the independent variable in the following order from strongest to weakest, training ( $r_{pb} = -.41$ ), education ( $r = .40$ ), experience ( $r = -.31$ ), knowledge level ( $r = -.27$ ), and years within the organization ( $r = -.12$ ). All were significant at  $<.01$ , with the exception of years within the organization which was significant at  $<.05$ .

Multiple regression analysis revealed four significant models. Model number four ( $F=32.98$ ,  $p<.01$ ) was selected as the best model with four significant explanatory variables (training, education, experience, and years in the organization) which explained

a range of 31% to 32% of the total variation in leadership attainment. The findings related to education are supported in the literature. In other studies examining education (Kakar, 1998; Wilson, 1999; Whetstone, 2000) it was found that college educated officers were more flexible and socially aware which contributed to the attainment of leadership positions. Additionally, a college education prior to employment decreased the frequency in which police officers received personnel complaints and correlated positively with higher test scores on promotional processes within law enforcement organizations. There were no other studies found in the literature which supported the positive correlation of the remaining human capital assets with the attainment of leadership positions, however, this positive relationship was expected by the researcher.

### ***Research Hypothesis 3***

***Perceived Procedural Justice, Perceived Distributive justice, and Perceived Barriers and Facilitators to Career Advancement as Significant Explanatory Variables of the Attainment of Leadership positions.*** To test Hypothesis 3, Pearson  $r$  correlation and stepwise multiple regression analysis were used to examine whether perceived *Procedural and Distributive Justice* and *Perceived Barriers and Facilitators to Career Advancement* are significant explanatory variables of the attainment of leadership positions. Six of the eleven explanatory variables (distributive justice, procedural justice, five subscales of barriers to career advancement, and four subscales for facilitators to career advancement) had significant positive relationships with the dependent variable. These relationships, in order from strongest to weakest, were *Distributive Justice* ( $r = .25$ ), four *Facilitators to Career Advancement* (*Developmental Assignments* [ $r = .23$ ], *Networking* [ $r = .20$ ], *Managing Own Career* [ $r = .20$ ], and *Mentoring* [ $r = .15$ ]), and



*Procedural Justice* ( $r = .15$ ). These positive correlations indicate that as the respondents' leadership positions increased, so did their perceptions of *Distributive justice*, *Procedural Justice*, and *Facilitators to Career Advancement*.

Two significant models were produced from the regression analysis. Model number two ( $F=13.14$ ,  $p<.01$ ) was selected as the best explanatory model with two explanatory variables (*Distributive Justice*, and *Facilitators to Career Advancement* subscale *Developmental Assignments*). This model accounted for a range of 8% to 9% of the variance in the dependent variable. Therefore, only 8% of the dependent variable (*Attainment of Leadership Positions*) can be explained by the explanatory variables in this model. This leaves a residual of approximately 92% that may be explained by other barriers such as those hypothesized in research hypothesis 2.

#### ***Research Hypothesis 4***

***Organizational Characteristics as Significant Explanatory Variables of the Attainment of Leadership Positions.*** To test Hypothesis 4, Pearson  $r$  correlation, point-biserial correlation, and stepwise multiple regression analysis were used to examine and determine whether *Organizational Characteristics* are significant explanatory variables of the attainment of leadership positions. Two significant models were produced from the regression analysis. Model 2, with two explanatory variables (promotional process and organization size), was the best explanatory model to explain attainment of leadership positions ( $F = 23.23$ ,  $p < .01$ ). This model explained 14% of the variation in the dependent variable of attainment of leadership positions. Hypothesis 4 was supported; *Organizational Characteristics* (size and promotional process) are significant explanatory variables of the attainment of leadership positions.

There were no other studies found in the literature where relationships between organizational characteristics of promotional process and attainment of leadership positions were examined. However, the findings in this study reference organizational size, are somewhat consistent with those of Bertrand and Hallock (2001) of private corporations where women were less likely to attain leadership positions in larger companies, i.e., they were less likely to become chief executive officers, chairs, vice chairs and presidents.

### ***Hypothesis 5***

***Demographic Characteristics are significant Explanatory Variables of the Attainment of Leadership Positions.*** To test Hypothesis 5, Pearson  $r$  correlation, point-biserial correlation, and regression analysis were used to examine whether race, ethnicity, gender, and age are significant explanatory variables of the attainment of leadership positions. Age ( $r=.25, p<.01$ ) was the only variable having a significant relationship to the attainment of leadership positions, indicating that the older respondents had higher leadership positions. Simple linear regression revealed the only model was significant ( $F=18.34, p<.01$ ). Hypothesis 5 was supported, however, this single model only accounted for 6% of the variation in the dependent variable leaving a residual of approximately 94% unexplained.

The other demographic characteristics variables of race, gender, and ethnicity were not significantly correlated with the attainment of leadership positions in this study. These findings are not consistent with findings in previous studies, specifically of the fundamental, theoretical concepts of the Glass Ceiling effect. The Lyness and Thompson (2000) study of matched samples of males and females in corporations to examine the

Glass Ceiling Effect found that even when developmental experience and career histories were similar, females attained fewer leadership positions. These findings are also contrary to the findings of Cotter et al., (2001). Florida and Gates (2002), and federal initiatives such as the U.S. Department of Labor's Office of Contract Compliance Programs' 1996 study on the Glass Ceiling Initiative.

### ***Hypothesis 6***

***Human capital assets, demographic characteristics, organizational characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career advancement as significant explanatory variables of attainment of leadership position.*** To test Hypothesis 6, the significant variables resulting from Pearson  $r$  or point-biserial correlations with attainment of leadership position found in Hypotheses 2 through 5 were entered into a stepwise linear regression. Seven significant models were produced from the regression analysis. Model 7, with seven explanatory variables (*Human Capital Assets* of training, education, years in current organization, and years of experience, *Distributive Justice*, and *Organizational Characteristics* of promotion process and organization size), was the best explanatory model to explain attainment of leadership position ( $F = 31.98, p < .01$ ), having the highest  $R^2$  value of .45 and an adjusted  $R^2$  of .43. However, neither *Procedural Justice* nor any *Facilitators* or *Barriers to Career Advancement* were found to be significant explanatory variables.

The order of importance of the predictor variables in explaining attainment of leadership position according to the standardized Beta coefficients ( $\beta$ ) were from most important to least important: experience ( $\beta = .34$ ), education ( $\beta = .27$ ), *Distributive Justice* ( $\beta = .25$ ), training ( $\beta = .22$ ), promotion process ( $\beta = .20$ ), organization size ( $\beta = -$

.18), and years in the current organization ( $\beta = -.16$ ). Hypothesis 6 was partially supported. A summary of Hypotheses 2-6 with results and literature interpretations are presented in table 5-3.

Table 5-3

*Summary of Hypotheses 2-6, Variance Explained, Results, and Interpretation of Literature*

Hypotheses	Variance Explained	Hypotheses Testing Results And Explanatory Variables in Model Selected	Literature
<b>H2</b> There is a significant explanatory relationship between human capital assets and the attainment of law enforcement positions	31% to 32%	<b>Supported</b> Training (+) Education (+) Experience (+) Years Within Organization (+)	Kakar (1998) Wilson (1999) Whetstone (2000) <b>Consistent (Education)</b>
<b>H3</b> There is a significant explanatory relationship between perceived procedural justice, perceived distributive justice and perceived barriers and facilitators to career advancement and attainment of leadership positions	8% to 9%	<b>Support Partially</b> Distributive Justice (+) Developmental Assignments (+)	Lyness & Thompson (2000) <b>Consistent</b>
<b>H4</b> There is a significant explanatory relationship between organizational characteristics and the attainment of leadership positions	14%	<b>Supported</b> Size (+) Promotions Process(+)	Bertrand & Hollock (2001) <b>Consistent</b>

Table 5-3 Continued

Hypotheses	Variance Explained	Hypotheses Testing Results And Explanatory Variables in Model Selected	Literature
<b>H5</b> There is a significant explanatory relationship between demographic characteristics and the attainment of law enforcement positions	6%	<b>Supported</b> Age (+)	Cotter et al. (2001), <b>Not Consistent</b> Florida and Gates (2002) <b>Not Consistent</b> Lyness & Thompson <b>Not Consistent</b>
<b>H6</b> There is a significant explanatory relationship between perceived procedural justice, perceived distributive justice and perceived barriers and facilitators to career advancement and the attainment of leadership positions	43% to 44%	<b>Support Partially</b> Training (+) Education (+) (Distributive Justice (+) Experience (+) Promotional Process(+) Organization Size (+) Tenure (+)	Lyness & Thompson (2000) <b>Consistent</b> Moorman (1990) Consistent

### *Contributions to the Empirical validity of the Glass Ceiling Propositions*

A fifth purpose of this study was to contribute to the empirical validity of Cotter, Hermsen, Ovadia , and Vanneman's (2001) criterion based propositions of the Glass Ceiling Effect. This study focused primarily on perceptions of justice and barriers and facilitators to career advancement rather than inequalities based on racial and gender differences. However, in conducting analyses to answer research questions and to test hypotheses, comparisons of racial and gender groups were made.

### ***Proposition 1***

A glass ceiling inequality represents a gender or racial difference that is not explained by other job-relevant characteristics of the employee. Two hundred and twenty-six (77.7%) of the respondents in this study indicated that they were White while only sixty (20.6%) indicated that they were African American. Other racial groups made up less than 2% of the respondents. Two hundred and thirty-two respondents (79.7%) indicated they were male whereas 59(20.3%) indicated they were female. There were few racial or gender differences found in this study, with the significant exception of lack of culture fit. For example analyses of the distribution of respondents by race, ethnicity, and gender did not find significant differences by promotional process. However, those who reported being appointed to their positions were in significantly higher positions than those who were promoted. Other job relevant characteristics cannot be dismissed in this study.

### ***Proposition 2***

A glass ceiling inequality represents a gender or racial difference that is greater at higher levels of an outcome than at lower levels of an outcome. It is difficult in this study to determine if there are differences in higher levels of the outcome (attainment of leadership positions) due to either the lack of participation of those in higher positions in the survey or the over participation of those at lower level positions. The number of high outcome positions, Chief Executive Officers/Assistant Chief (n=26) as opposed to low outcome, Sergeants (n=150). Further hindrances in examining this proposition was racial makeup of the respondents, 79% of the respondents were white and only 21% were African American. *T* test results were conducted which showed no significant differences in the attainment of leadership positions according to gender. The attainment

of law enforcement positions were correlated inversely with age instead of race ( $r = -.23$ ,  $p < .01$ ) indicating a relationship between older officers and higher positions. Race was not a significant factor.

### ***Proposition 3***

A glass ceiling inequality represents a gender or racial inequality in the chances of advancement into higher levels, not merely the proportions of each gender or race currently at those higher levels. As it relates to an inequality in the chances of career advancement based on race and gender, this proposition is supported in this study.

Analysis of three of the five barriers to career advancement subscales (*Lack of Cultural Fit*, *Difficulty Getting Developmental Assignments*, and *Difficulty Obtaining Opportunities for Geographic Mobility*) found significant differences between White/Other and African American respondents. In all cases, African American respondents, on average, reported more barriers than White respondents did. Additionally, African Americans reported, on average, more total barriers than White respondents did.

### ***Proposition 4***

A glass ceiling inequality represents a gender or racial inequality that increases over the course of a career. In this study, it was not possible to accurately test the proposition that a glass ceiling inequality represents a gender or racial inequality that increases over the course of a career. A longitudinal or cohort study would be needed.

## **Conclusions**

1. The majority of the respondents in this study were white (79%), fewer than 5% were Hispanic, and only one in five were female. Less than 1%



indicated that they were neither White nor African American. Most of the respondents were employed in organizations of 240, or more, sworn law enforcement officers and 55% were employed in county organizations as opposed to local organizations. The majority of officers were affiliated with unions (85%) and was promoted (94%) as opposed to being appointed.

2. The majority of respondents in this study received training at institutions other than the FBI and Southern Police Institute. Officers with appointed positions, however, were more likely to receive their training at these institutions
3. Differences in organizational size were found between types of advanced training. Officers who received their training at the FBI or Southern Police Institute were in significantly smaller organizations.
4. Respondents who were promoted reported significantly higher levels of knowledge than those who were appointed.
5. Indications from this study are that respondents in municipal(local) organizations attain higher leadership positions, and had significantly more education, than those in county organizations
6. An inverse relationship was found between the attainment of leadership positions and organizational size, indicating that respondents in smaller organizations were more likely to be in higher leadership positions.

7. A larger percentage of African Americans reported being employed in county organizations as opposed to municipal organizations, and in unionized organizations as opposed to nonunion.
8. There was no gender or racial significant differences in the attainment of leadership positions by promotional process (appointed or promoted).
9. Respondents in nonunion organizations perceived more procedural justice than those in unionized organizations.
10. Significant differences in perceptions of *Networking*, *Mentoring*, and *Developmental Assignments* were based on promotional process. Appointed respondents reported higher perceptions of these facilitators.
11. Females perceived more barriers to career advancement in the significant subscale *Lack of Culture Fit*. There were no significant differences between males and females according to perceived procedural justice, perceived distributive justice, or other perceived barriers or perceived facilitators to career advancement.
12. African American respondents perceived greater barriers and total barriers to career advancement than White respondents.
13. As hypothesized, White males perceived fewer Barriers to career advancement than any other racial /gender groups.
14. African American Males, however, perceived more facilitators than other groups, where it was hypothesized that they would perceive less
15. African American females reported the lowest level of attainment of leadership positions as hypothesized.

16. *Human Capital Assets* are significant explanatory variables of the attainment of leadership positions in county and local law enforcement organizations in the State of Florida.
17. Leadership attainment in local and county law enforcement organizations in the State of Florida can be explained by variables of *Perceived Distributive Justice*, and *Facilitators to Career Advancement*
18. *Organizational Characteristics* are significant explanatory variables of the attainment of leadership positions in local and county law enforcement organizations in the State of Florida.
19. Age is the only *Demographic Characteristic* in this study which is a significant explanatory variable of the attainment of leadership positions in local and State law enforcement organizations in the State of Florida.

### **Practical Implications**

This study has examined and explored the Glass Ceiling Effect in local and county law enforcement organizations from the perspectives of theoretical concepts of perceived procedural justice, perceived distributive justice and perceived barriers and facilitators to career advancement in local and state law enforcement organizations in the State of Florida. While adding to the literature of the study of the Glass Ceiling, the study also has the following practical implications:

1. Chief executive officers and command level managers within local and county law enforcement organizations in the State of Florida should continue to support such efforts as training, and education. Particularly of their rank and file officers

and supervisors. Training in education contributes to human capital assets which translates into better opportunities for attainment of leadership positions

2. Perceptions of justice, both procedural and distributive justice, are not as significant or important to the attainment of leadership positions in law enforcement as are perceived barriers and facilitators. Chief Executive Officers should focus on perceived barriers and facilitators to facilitate the attainment of leadership positions
3. Chief Executive officers and command level officers must ensure that the culture within the law enforcement organization is conducive to the attainment of leadership positions. The lack of culture fit can be a detriment to career advancement, specifically in the following dimensions: (1) Feeling pressure to fit in or adapt to the culture (2) Having few role models (3) Feeling like an outsider (4) Not feeling comfortable asserting views because of possible consequences (5) Feeling that mistakes cannot be made or learn from them because of potential threats to the job or the future of an officer (6) Feelings of being held to higher standards than others (7) Selecting and recommending people like themselves.
4. Barriers to the attainment of leadership positions and career advancement must be removed in order for the Glass Ceiling Effect to be diminished
5. Mentoring programs and other perceived facilitators to career advancement in law enforcement organizations are critical facilitators to the attainment of leadership positions and should be expanded.
6. As the State of Florida becomes more diverse in its population, law enforcement organizations should reflect that diversity. In this study less than 1% of the

respondents indicated that they were American Indian, Asian, or Pacific Islander, and 95.9% indicated that they were not Hispanic. Active recruiting efforts should be implemented within law enforcement organizations targeting these underrepresented groups.

### **Limitations**

1. This non-experimental study has lower internal validity than experimental studies.
2. This study was limited to the State of Florida.
3. The sample in this study was limited to local and county law enforcement organizations.
4. In this study, scales were adopted from other studies and bodies of research which pertained to totally distinct and different fields and occupations, i.e., the health care industry and not law enforcement. There are obvious differences in the populations.
5. Officers from agencies with more than 100 sworn law enforcement officers were invited to participate which left out smaller agencies that may have been more diverse samples.
6. The online research design was limited in that it assessed only those officers whose e-mail addresses were provided by their chief executive officer, and who agreed to participate in the survey.
7. It is difficult to assess whether the final data producing sample represented a diverse portion of the State of Florida.

## **Recommendations**

Future studies are recommended, based on the interpretations and conclusions from this study, as follows:

1. Four of the scales adopted and used in this study were designed by researchers studying professions and disciplines not related to law enforcement. Future research should utilize scales and surveys specifically designed for law enforcement organizations
2. Future research needs to be conducted to add to the validity of the Criterion based definition of Cotter, Hermesen, Ovadia, and Vanneman's (2001) where the glass ceiling effect represents a gender or racial difference that is greater at higher levels of an outcome than at lower levels of an outcome and represents a gender or racial inequality that increases over the course of a career. A longitudinal study is suggested.
3. A research design, other than an online survey, such as interviews and questionnaires are recommended for future research this which would elicit more detailed responses on perceptions of justice and barriers and facilitators to career advancement.
4. A study focusing primarily on either racial differences or gender differences in law enforcement organizations (reduction in variables) would reveal more thorough findings.
5. This study should be replicated with a larger sample size to strengthen both the internal and external validity of the study

6. This study should be replicated with a national sample of law enforcement organizations to reduce homogeneity.
7. Future research should conduct construct validity studies on the *Distributive Justice Scale*, the *Procedural Justice Scale*, and the *Perceived Barriers and Facilitators to Career Advancement Scale*
8. Future research should use structural equation modeling to examine the relationships among human capital assets, demographic characteristics, procedural justice, distributive justice, perceived barriers and facilitators to career advancement, and the attainment of leadership positions in law enforcement.
9. In this study, 43% to 44% of the variance in leadership attainment was explained by a model with the variables of training, education, distributive justice, experience, promotion process, and organizational size, leaving 56% to 57% variance unexplained. Additional variables should be incorporated into the present model, and tested in additional studies, to further explain leadership attainment of law enforcement officers to include, racism and geographic region.

The purpose of this study was to contribute to the empirical literature of the glass ceiling effect from the perspective of human capital assets, demographic characteristics, organizational characteristics, perceived procedural justice, perceived distributive justice, and perceived barriers and facilitators to career, and the attainment of leadership positions in local and county law enforcement organizations, in the State of Florida. In this study, a model to explain 43% to 44% of the variance in leadership attainment in local and county law enforcement organizations was found. There were significant findings that race and gender were not significant explanatory variables to the attainment

of leadership positions. Chapter V discussed the summary and interpretations of results, limitations, conclusions, practical implications, and recommendations for future research.



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## **Appendix A**

**Printout of Parts 1,2,3,4, and 5 of the Survey Instrument from SurveyMonkey.com**

**Note: Permission was not granted by developer to reproduce the *Perceived Barriers and Facilitators to Career Advancement* scale in the published dissertation**

[SURVEY PREVIEW MODE] Perceived Justice and Barriers and Facilitators to Advancement in Law Enf - Windows Internet Explorer

http://www.surveymonkey.com/s.aspx?sm=yLUNMwVrB6UEELMFGR43MS74ba89KUPKC1dh16la8TDuznTg3UZ23xU61FdnOm7Q7a27En2Fgdn%2FUG7w62P29wac3Qy1hCmRg5E6N-O7%2U1%3D

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**Perceived Justice and Barriers and Facilitators to Advancement in Law Enforcement Organizations** [Exit this survey >>](#)

**2. Human Capital Assets and Leadership Positions**

Please Check one Response or Fill in the Blank for the Following Questions that Best Describe You.

**\*2. Highest Educational Level Achieved (check one)**

☐ Professional(MA,MS,ME,MD,PhD,LLD)

☐ Four year college graduate(BA,BS,BM)

☐ One to three years(also business school)

☐ High school graduate

☐ GED or equivalent

**\*3. Level of Advanced Training**

☐ FBI Administrative Officers Course

☐ Southern Police Institute

☐ Other

**\*4. Law Enforcement Experience in Years**

**\*5. Knowledge Level**

☐ Basic

☐ Moderate

☐ Above Average

☐ Advanced

**\*6. Number of Years (Tenure) Within Organization**

**\*7. Actual Rank or Equivalent**

☐ Chief/Executive Officer

☐ Assistant Chief

☐ Major

Done

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Perceived Justice and Barriers and Facilitators to Advancement in Law Enforcement Organizations - Windows Internet Explorer

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### 3. Demographics

Check the One That You Most Consider Yourself to Be

**8. Race**

☐ White

☐ Black or African American

☐ American Indian or Alaska Native

☐ Asian

☐ Native Hawaiian or other Pacific Islander

**9. Ethnicity**

☐ Hispanic or Latino

☐ Not Hispanic or Latino

**10. Gender**

☐ Male

☐ Female

**11. Age in Years**

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[SURVEY PREVIEW MODE] Perceived Justice and Barriers and Facilitators to Advancement in Law Enf - Windows Internet Explorer

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#### 4. Organizational Characteristics

Please Check the Box to The Answer That Best Describes Your Organization

**12. Organization Size: Number of Sworn Law Enforcement Officers**

☐ 100-149

☐ 150-199

☐ 200-249

☐ 250 or more

**13. State or Local Affiliation**

☐ Municipal

☐ County

☐ State

**14. Union Affiliation**

☐ Unionized

☐ None Unionized

**15. Your Promotional Process**

☐ Promotion

☐ Appointment

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Done

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Perceived Justice and Barriers and Facilitators to Advancement in Law Enforcement Organizations - Windows Internet Explorer

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### 5. Procedural Justice

The Six Items Represent Procedural Justice. In Answering the Following Questions, Think of the Day to Day Decisions Made About Worker Responsibilities, Schedules and General Treatment. Using the Following Scale to Indicate the Extent to Which You Agree or Disagree with Each Statement.

Note. The Procedural Justice scale is from "The relationships between organizational justice and organizational citizenship behaviors: Do fairness perceptions influence employee citizenship" by R.H. Moorman, 1991, Journal of Applied Psychology, 76, pp. 845-855. Adopted with permission of the authors.

**16. When Decisions About Other Employees in General or You in Particular are Made in This Organization:**

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly agree
Requests for clarification and additional information is allowed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All sides affected by the decisions are represented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The decisions are applied with consistency to the parties affected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complete information upon which decisions are based is collected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunities are provided to appeal or challenge decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accurate information upon which decisions are based is collected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Perceived Justice and Barriers and Facilitators to Advancement in Law Enforcement Organizations - Windows Internet Explorer

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File Edit View Favorites Tools Help

**Perceived Justice and Barriers and Facilitators to Advancement in Law Enforcement Organizations** [Exit this survey >>](#)

**6. Distributive Justice**

Please Answer the Following Questions Using the Answer Scale Provided.

Note: The Distributive Justice scale is from "The Handbook of organizational measurement" by J.L.Price and C.W. Mueller, 1986, Marshfield, MA: Pittman. Adopted with permission of the authors.

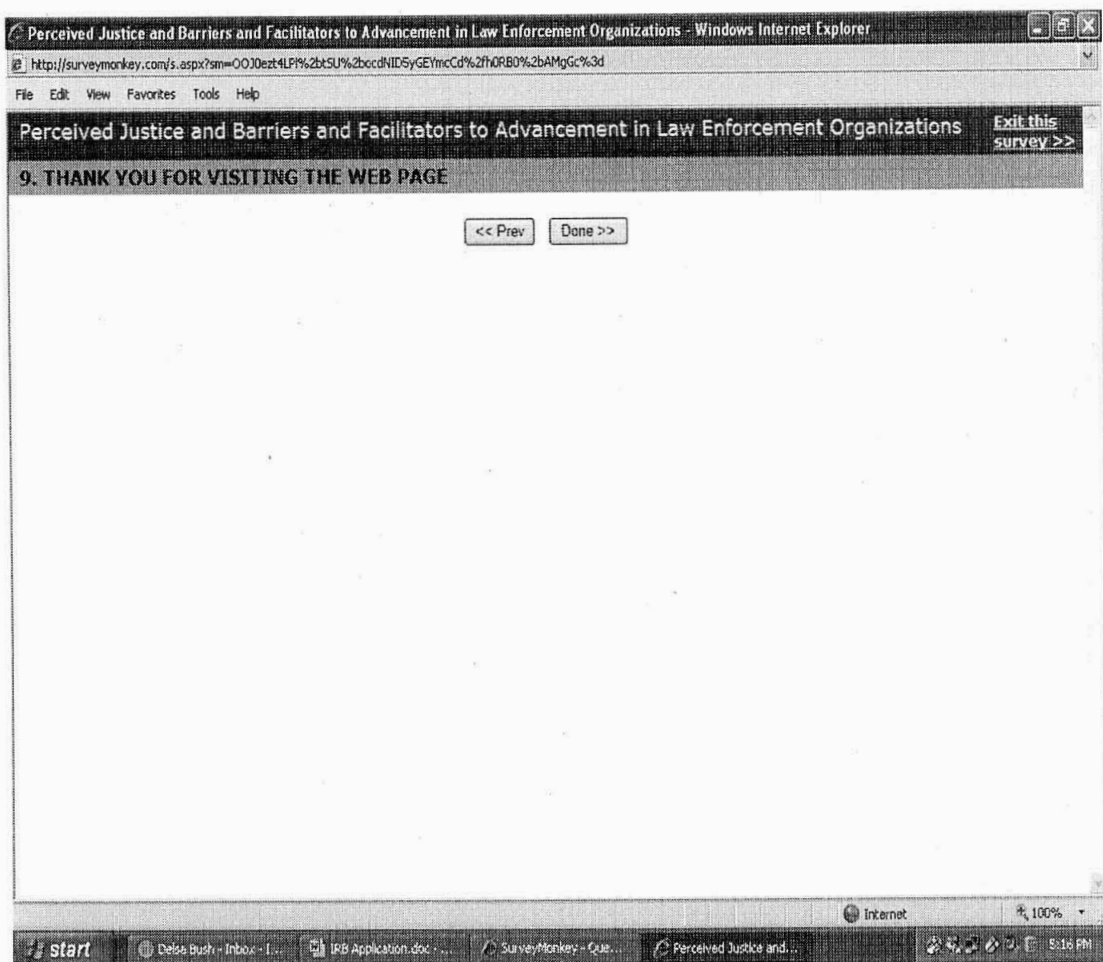
**17. To what Extent are you Fairly Rewarded:**

	Very Unfairly	Unfairly	Undecided	Fairly	Very Fairly
Considering the responsibilities that you have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking into account the amount of education and training that you have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In view of the amount of experience that you have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For the amount of effort that you put forth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For the work that you have done well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For the Stresses and Strains of Your Job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## **Appendix B**

### **Survey Monkey Policy and Procedure**

## **Privacy Policy**

### **Information Collection**

We will not use the information collected from your surveys in any way, shape, or form. In addition, any other material you provide us (including images, email addresses, etc.) will be held in the strictest confidence.

In addition, we do not collect personally identifiable information about you except when you specifically provide this information on a voluntary basis. We will make every effort to ensure that whatever information you provide will be maintained in a secure environment.

However, even if you opt out of receiving any communications from SurveyMonkey.com, we reserve the right to contact you regarding your account status or any other matter that might affect our service to you and/or our records on you.

### **Information Use**

SurveyMonkey.com reserves the right to perform statistical analyses of user behavior and characteristics. We do this in order to measure interest in and use of the various areas of the website.

SurveyMonkey.com collects IP addresses for system administration and record keeping. Your IP address is automatically assigned to your computer when you use the World Wide Web. Our servers record incoming IP addresses. The IP addresses are analyzed only in aggregate; no connection is made between you and your computer's IP address. By tracking IP addresses, we can determine which sites refer the most people to SurveyMonkey.com. (Think of an IP address like your zip code; it tells us in general terms where you're from.)

### **Cookies**

"Cookies" are small text files a website can use to recognize repeat users. SurveyMonkey.com uses cookies to recognize visitors and more quickly provide personalized content or grant you unimpeded access to the website. With cookies enabled, you will not need to fill in password or contact information.

Information gathered through cookies also helps us measure use of our website. Cookie data allow us to track usage behavior and compile data that we can use to improve the site. This data will be used in aggregate form; no specific users will be tracked.

Generally, cookies work by assigning a unique number to the user that has no meaning outside of the Web site that he or she is visiting. You can easily turn off cookies. Most browsers have a feature that allows the user to refuse cookies or issues a warning when cookies are being sent. However, our site will not function properly without cookies. Enabling cookies ensures a smooth, efficient visit to our website.

### **Opting Out**

Upon request, SurveyMonkey.com will allow any user to opt out of our monthly newsletter. Also, upon your request, SurveyMonkey.com will delete you and your personal information from our database; however, it may be impossible to delete all of your information without some residual data because of backups and records of deletions.

For more information regarding opting out of any mailing from SurveyMonkey.com, please visit our **[Help Center](#)**.

## **Safe Harbor and EU Data Protection Requirements**

We have met the Safe Harbor requirements on 11/29/2004 02:29:37 PM SurveyMonkey.com has been placed on the Safe Harbor list of companies accordingly. This list can be found at: <http://web.ita.doc.gov/safeharbor/SHList.nsf/WebPages/Oregon>.

### **General Security Policy**

SurveyMonkey.com is aware of your privacy concerns and strives to collect only as much data as is required to make your SurveyMonkey experience as efficient and satisfying as possible, in the most unobtrusive manner as possible.

The foregoing policies are effective as of April 4, 2000. SurveyMonkey.com reserves the right to change this policy at any time by notifying users of the existence of a new privacy statement. This statement and the policies outlined herein are not intended to and do not create any contractual or other legal rights in or on behalf of any party.

### **Terms of Use**

ANY PERSON OR ENTITY ("User") ACCESSING THE SURVEYMONKEY.COM WEB SITE (the "Site" or "Service") OR ANY OF THE INFORMATION CONTAINED HEREIN AGREES TO AND IS BOUND BY THE FOLLOWING TERMS AND CONDITIONS OF THIS SURVEYMONKEY.COM WEB SITE TERMS OF USE ("Agreement"):

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#### **1. PAYMENT**

You agree to pay all applicable charges under this Agreement, including any applicable taxes or charges imposed by any government entity, and that SurveyMonkey.com may change its minimum pricing at any time. User must supply SurveyMonkey.com with correct credit card information, and any changes in credit card validity or expiration date must be updated. SurveyMonkey.com will automatically renew and charge User's account every month, quarter, or year for subscriptions. The renewal charge will be equal to the original subscription price, unless SurveyMonkey.com notifies User otherwise in advance. If the credit card cannot be processed for any reason, SurveyMonkey.com reserves the right to cancel the Service.

#### **2. MEMBER ACCOUNT, PASSWORD AND SECURITY**

You will receive a password and account designation upon completing the Service's registration process. You are responsible for maintaining the confidentiality of the password and account, and are fully responsible for all activities that occur under your password or account. You agree to (a) immediately notify SurveyMonkey.com of any unauthorized use of your password or account or any other breach of security, and (b) ensure that you exit from your account at the end of each session. SurveyMonkey.com cannot and will not be liable for any loss or damage arising from your failure to comply with this Section.



### 3. MEMBER CONDUCT

You understand that all information, data, text, software, music, sound, photographs, graphics, video, messages or other materials ("Content"), whether publicly posted or privately transmitted, are the sole responsibility of the person from which such Content originated. This means that you, and not SurveyMonkey.com, are entirely responsible for all Content that you upload, post, email, transmit or otherwise make available via the Service. SurveyMonkey.com does not control the Content posted via the Service and, as such, does not guarantee the accuracy, integrity or quality of such Content. You understand that by using the Service, you may be exposed to Content that is offensive, indecent or objectionable. Under no circumstances will SurveyMonkey.com be liable in any way for any Content, including, but not limited to, for any errors or omissions in any Content, or for any loss or damage of any kind incurred as a result of the use of any Content posted, emailed, transmitted or otherwise made available via the Service.

User agrees not to attempt to damage, deny service to, hack, crack, reverse-engineer, or otherwise interfere (collectively, "Interfere") with SurveyMonkey.com's web site in any manner. If User in any way Interferes with SurveyMonkey.com's web site, User agrees to pay all damages incurred by SurveyMonkey.com, including any consequential damages, and agrees that the measure of hard to determine damages will be the highest estimate of damages as provided by SurveyMonkey.com. User's Interference with SurveyMonkey.com's web site relieves SurveyMonkey.com of any of its contractual or other legal obligations to User, including SurveyMonkey.com's obligations under its Privacy Policy. SurveyMonkey.com will cooperate with the authorities in prosecuting any User who Interferes with SurveyMonkey.com's web site, attempts to defraud SurveyMonkey.com, or attempts to defraud credit card companies or any other parties through User's use of SurveyMonkey.com's web site or services.

You agree to not use the Service to:

- upload, post, email, transmit or otherwise make available any Content that is unlawful, harmful, threatening, abusive, harassing, tortious, defamatory, vulgar, obscene, libelous, invasive of another's privacy, hateful, or racially, ethnically or otherwise objectionable;
- harm minors in any way;
- impersonate any person or entity, including, but not limited to, a SurveyMonkey.com official, forum leader, guide or host, or falsely state or otherwise misrepresent your affiliation with a person or entity;
- upload, post, email, transmit or otherwise make available any Content that you do not have a right to make available under any law or under contractual or fiduciary relationships (such as inside information, proprietary and confidential information learned or disclosed as part of employment relationships or under nondisclosure agreements);
- upload, post, email, transmit or otherwise make available any Content that infringes any patent, trademark, trade secret, copyright or other proprietary rights ("Rights") of any party;
- upload, post, email, transmit or otherwise make available any unsolicited or unauthorized advertising, promotional materials, "junk mail," "spam," "chain letters," "pyramid schemes," or any other form of solicitation;

- interfere with or disrupt the Service or servers or networks connected to the Service, or disobey any requirements, procedures, policies or regulations of networks connected to the Service;
- intentionally or unintentionally violate any applicable local, state, national or international law, including, but not limited to, regulations promulgated by the U.S. Securities and Exchange Commission, any rules of any national or other securities exchange, including, without limitation, the New York Stock Exchange, the American Stock Exchange or the NASDAQ, and any regulations having the force of law;

Violation of any of the items in this Section relieves SurveyMonkey.com of any of its contractual or other legal obligations to User, including SurveyMonkey.com's obligations under its Privacy Policy.

SurveyMonkey.com reserves the right to refuse any or all service to any User for any reason, at any time, at SurveyMonkey.com's sole discretion. User agrees that SurveyMonkey.com may block its IP address or addresses at any time, and at SurveyMonkey.com's sole discretion, thereby disallowing User's continued use of SurveyMonkey.com's web site.

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These Terms of Use constitute the entire agreement between the parties with respect to the subject matter hereof and supersedes and replaces all prior or contemporaneous understandings or agreements, written or oral, regarding such subject matter. Any waiver of any provision of the Terms of Use will be effective only if in writing and signed by SurveyMonkey.com Corporation.

## **Appendix C**

**Authorization for Voluntary Consent Form Printout from**

**SurveyMonkey.com**



## 1. Consent Form

Lynn University  
Institutional Review Board for Human Subjects  
**AUTHORIZATION FOR VOLUNTARY CONSENT**

**PROJECT TITLE:** Perceived Justice and Barriers and Facilitators to the Attainment of Leadership Positions in Local and State Law Enforcement Organizations in the State of Florida  
**Project IRB Number:** \_\_\_\_\_ Lynn University 5601 N. Military Trail Boca Raton, Florida 33431

I Delsa Bush am a doctoral student at Lynn University. I am studying Global Leadership, with a specialization in Educational Leadership. One of my degree requirements is to conduct a research study.

**DIRECTIONS FOR THE PARTICIPANT:**

You are being asked to participate in my research study. Please read this carefully. This form provides you with information about the study. The Principal Investigator (Delsa Bush) or his/her representative if applicable) will answer all of your questions. Ask questions about anything you don't understand before deciding whether or not to participate. You are free to ask questions at any time before, during, or after your participation in this study. Your participation is entirely voluntary and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You acknowledge that you are at least 21 years of age, and that you do not have medical problems or language or educational barriers that precludes understanding of explanations contained in this authorization for voluntary consent.

**PURPOSE OF THIS RESEARCH STUDY:** The study is about procedural justice, distributive justice, and perceived barriers and facilitators to the attainment of leadership positions in state and local law enforcement organizations in the State of Florida. There will be approximately 2500 law enforcement officers in leadership positions between the rank of sergeant and chief executive officer invited to participate in this study. These officers must be 21 years of age or older and be employed within an agency with 100 or more sworn officers.

**PROCEDURES:**

An invitation e-mail was sent to each participant using the Blind Carbon Copy (Bcc) method. In the e-mail invitation, a link was provided to this authorization for voluntary consent. The survey will begin after you click the "Yes I agree to participate in this study" button at the end of this authorization. The survey is completed electronically and should take 10-15 minutes. Specific instructions are provided for each section of the survey.

**POSSIBLE RISKS OR DISCOMFORT:** This study involves minimal risk. You may find that some of the questions are sensitive in nature. In addition, participation in this study requires a minimal amount of your time and effort.

**POSSIBLE BENEFITS:** There may be no direct benefit to you in participating in this research. But knowledge may be gained which may help in future scholarly inquiry and theoretical developments about perceived justice and barriers and facilitators to the attainment of leadership positions in law enforcement.

**FINANCIAL CONSIDERATIONS:** There is no financial compensation for your participation in this research. There are no costs to you as a result of your participation in this study.

**ANONYMITY:** Anonymity will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. The researcher will not identify you and data will be reported as "group" responses. Participation in this survey is voluntary and return of the completed survey will constitute your informed consent to participate. All information will be held in strict confidence and will not be disclosed unless required by law or regulation. No identifying information will be collected from participants. Your e-mail address, IP address, and individual responses will not be tracked or identified in the data collection process. The results of this study may be published in a dissertation, scientific journals or presented at professional meetings. In addition, your individual privacy will be maintained in all publications or presentations resulting from this study.

**RIGHT TO WITHDRAW:** You are free to choose whether or not to participate in this study. There will be no penalty or loss of benefits to which you are otherwise entitled if you choose not to participate.

**CONTACTS FOR QUESTIONS/ACCESS TO CONSENT FORM:** Any further questions you have about this study or your participation in it, either now or any time in the future, will be answered by Delsa Bush (Principal Investigator) who may be reached at [REDACTED] or dbush@email.lynn.edu and Dr. Joan Scialli, faculty advisor who may be reached at [REDACTED]. For any questions regarding your rights as a research subject, you may call Dr. Farazmand, Chair of the Lynn University Institutional Review Board for the Protection of Human Subjects, at [REDACTED]. If any problems arise as a result of your participation in this study, please call the Principal Investigator Delsa Bush and the faculty advisor, Dr. Joan Scialli, immediately. You may print a copy of this consent form.

**INVESTIGATORS AFFIDAVIT:** I hereby certify that a written explanation of the nature of the above project has been provided to the person participating in this project. A copy of the written documentation provided is attached hereto. By the person's consent to voluntarily participate in this study, the person has represented that he/she is at least 21 years of age, and that he/she does not have a medical problem or language or educational barrier that precludes his/her understanding of my explanation. Therefore, I hereby certify that to the best of my knowledge the person participating in this project understands clearly the nature, demands, benefits, and risks involved in his/her participation.

[REDACTED]  
Signature of investigator

Date of IRB Approval: \_\_\_\_\_

**1. choose one below**

- ☐ Yes, I agree to participate in the survey
- ☐ No, I do not agree to participate in the survey

## **Appendix D**

### **List of 75 Law Enforcement Organizations in the State of Florida Employing 100 or More Officers**

County	Name of agency	Full-time employees, 2000		
		Total	Sworn officers	Percent
FLORIDA				
Alachua	Alachua County Sheriff	858	229	35
Alachua	Gainesville Police	340	255	55
Bay	Bay County Sheriff	259	175	56
Brevard	Brevard County Sheriff	819	387	47
Brevard	Maitland Police	506	157	78
Brevard	Palm Bay Police	187	123	62
Broward	Broward County Sheriff	4,111	1,510	32
Broward	Coral Springs Police	274	174	64
Broward	Dania Police	186	142	73
Broward	Fort Lauderdale Police	773	496	64
Broward	Hollywood Police	528	348	68
Broward	Margate Police	172	108	63
Broward	Miramar Police	172	130	73
Broward	Pembroke Pines Police	239	201	73
Broward	Plantation Police	283	194	64
Broward	Sunrise Police	213	154	70
Charlotte	Charlotte County Sheriff	420	227	51
Citrus	Citrus County Sheriff	283	182	62
Clay	Clay County Sheriff	418	230	55
Collier	Collier County Sheriff	915	504	55
Duval	Jacksonville Sheriff	2,541	1,530	60
Escambia	Escambia County Sheriff	1,048	391	38
Escambia	Pensacola Police	225	157	70
Hernando	Hernando County Sheriff	282	182	65
Highlands	Highlands County Sheriff	231	117	51
Hillsborough	Hillsborough County Sheriff	2,785	1,080	37
Hillsborough	Tampa Police	1,229	829	75
Indian River	Indian River County Sheriff	410	207	50
Lake	Lake County Sheriff	328	207	63
Lee	Lee County Sheriff	310	410	43
Lee	Cape Coral Police	223	140	70
Lee	Fort Myers Police	235	152	64
Leon	Leon County Sheriff	654	295	44
Leon	Tallahassee Police	457	321	70
Manatee	Manatee County Sheriff	634	381	57
Marion	Marion County Sheriff	688	277	40
Marion	Ocala Police	227	149	68
Marlin	Marlin County Sheriff	500	203	41
Miami-Dade	Miami-Dade Police	4,305	3,006	70
Miami-Dade	Coral Gables Police	238	181	69
Miami-Dade	Hialeah Police	445	335	73
Miami-Dade	Miami Police	1,487	1,110	73
Miami-Dade	Miami Beach Police	538	378	70
Miami-Dade	North Miami Police	183	120	74
Miami-Dade	North Miami Beach Police	152	104	67
Monroe	Monroe County Sheriff	535	183	39
Okaloosa	Okaloosa County Sheriff	271	205	73
Orange	Orange County Sheriff	1,792	1,211	69
Orange	Orlando Police	918	847	73
Osceola	Osceola County Sheriff	734	257	34
Palm Beach	Palm Beach County Sheriff	2,745	1,074	38
Palm Beach	Boca Raton Police	225	149	66
Palm Beach	Boynton Beach Police	178	135	76
Palm Beach	Delray Beach Police	218	147	66
Palm Beach	West Palm Beach Police	140	102	75
Palm Beach	West Palm Beach Police	371	255	65
Pasco	Pasco County Sheriff	878	374	45
Pinellas	Pinellas County Sheriff	2,351	682	36
Pinellas	Clearwater Police	411	252	57
Pinellas	Largo Police	178	123	59
Pinellas	St. Petersburg Police	723	500	58
Polk	Polk County Sheriff	1,348	511	38
Polk	Lakeland Police	350	234	57
Putnam	Putnam County Sheriff	201	151	75
St. Johns	St. Johns County Sheriff	452	272	58
St. Lucie	St. Lucie County Sheriff	457	217	47
St. Lucie	Fort Pierce Police	146	108	74
St. Lucie	Port St. Lucie Police	186	133	72
Santa Rosa	Santa Rosa County Sheriff	514	137	44
Sarasota	Sarasota County Sheriff	884	392	44
Sarasota	Sarasota Police	587	200	35
Seminole	Seminole County Sheriff	739	304	41
Seminole	Altamonte Springs Police	153	101	66
Volusia	Volusia County Sheriff	577	384	67
Volusia	Daytona Beach Police	346	249	72

## **Appendix E**

### **Courtesy Letter to Chief Executive Officers of 75 Agencies and Request for E-mail**

#### **Addresses of Eligible Participants**

May 15, 2008

«OwnersName»

«OwnersAdd»

«CityStateZip»

Dear «OwnersName»

I am presently seeking a PhD in Global Leadership at Lynn University. One of the requirements is to complete a dissertation. I am writing you to ask for your assistance in identifying potential participants from your agency. The title of the dissertation proposal is "Perceived Justice and Barriers and Facilitators to the Attainment of Leadership Positions in Local and State Law Enforcement Organizations in the State of Florida". The purpose of the study is to examine the glass ceiling effect in law enforcement from the perspective of such variables as human capital assets, demographic characteristics, and organizational characteristics, perceived barriers, etc.

The research instrument is an on-line survey in which each eligible participant within your organization will receive an e-mail invitation with a link to a consent form and the survey. Eligible participants are those sworn law enforcement officers who hold the rank of sergeant and higher (or their equivalent) up to and including the chief executive officer. Respondents will complete the survey anonymously. Law enforcement agencies will not be identified.

Please send me (via e-mail), the e-mail addresses of the officers within your organization who hold the rank of sergeant or higher, up to and including the chief executive officer. Under Chapter 119 of the Florida Statutes, the e-mail addresses are public records: *It is the policy of this state that all state, county, and municipal records are open for personal inspection and copying by any person. Providing access to public records is a duty of each agency* (Florida Statutes 119.01, General state policy on public records). My email address is [REDACTED] If you have any questions, please do not hesitate to contact me.

Thank You for assisting to facilitate my dissertation,

Delsa R. Bush  
Doctoral Student

[REDACTED]  
E-mail [REDACTED]

## **Appendix F**

### **Permission to use Scales from Copyright Holders**

From: [REDACTED]  
To: [Delsa Bush](#)  
Cc: [REDACTED]  
Subject: Re: Permission to use instrument  
Attachments:

Sent: Wed 6/6/2007 11:17 PM

You have permission to use the The Distributive Justice Index Scale in the Price and Mueller Handbook. I wish you success in your research.

Emeritus Professor Charles Mueller  
Dept of Sociology  
University of Iowa  
Iowa City, IA 52242  
Quoting Delsa Bush <[REDACTED]>:

June 4, 2007

Charles H. Mueller  
W507 Seashore Hall  
University of Iowa  
Iowa City, Iowa 52242

I am completing a doctoral dissertation at Lynn University entitled The Glass Ceiling Effect in Local and State Law Enforcement Organizations in the State of Florida. I would like your permission to reprint in my dissertation an excerpt from the following:  
Price, J.L., & Mueller, C.W. (1996). Handbook of organizational measurement. Marshfield, MA: Pittman  
The excerpt to be reproduced is: The Distributive Justice Index Scale  
The requested permission extends to any future revisions and editions of my dissertation, including non-exclusive world rights in all languages, and to the prospective publication of my dissertation by ProQuest Information and Learning (ProQuest) through its UMI® Dissertation Publishing business. ProQuest may produce and sell copies of my dissertation on demand and may make my dissertation available for free internet download at my request. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you.

If these arrangements meet with your approval, please respond to this email with your written permission as well as contact information as proof to the Lynn University IRB that I have your approval. If you need further information you may contact me at [REDACTED].

Thanking you sincerely,  
Delsa R. Bush



From: Ann Fitzpatrick [REDACTED] Sent: Tue 1/29/2008 9:25 AM  
To: Delsa Bush  
Cc:  
Subject: Re: Use of Hollingshead Four Factor Index Scale  
Attachments:

Anyone can use the Hollingshead Four Factor Index when they wish. As you know, for years people have been doing so. I don't think any permission is necessary, because it is now certainly in the public domain.

I hope this helps.

At 02:32 PM 1/24/2008, you wrote:  
January 24, 2008

Ann Fitzpatrick  
Department of Sociology  
Yale University, New Haven, Ct

Ms. Fitzpatrick my name is Delsa Bush and I am a student at Lynn University Boca Raton, Florida. The purpose of this e-mail is to follow-up on our conversation early today reference the use of the The A. B. Hollingshead Four Factor Index as part of my dissertation proposal. I understood at the time of our conversation that this index is part of an unpublished manuscript which is not copyrighted and I can therefore proceed without the permission of the author who is deceased.

Please respond back to my email concerning this matter. I will also need you to include your contact information within the e-mail as proof to the Lynn IRB.  
Thank you for your assistance

Delsa Bush

RE: Permission to use justice scale - Windows Internet Explorer

https://pop.student.lynn.edu/exchange/DBush/Inbox/RE:%20Permission%20to%20use%20justice%20scale.EML?Cmd=open

Reply Reply to all Forward Print X Help

From: Moorman, Robert [REDACTED]  
To: Delsa Bush  
Cc:  
Subject: RE: Permission to use justice scale  
Attachments:

Sent: Tue 5/20/2008 10:10 AM

I am pleased to grant you permission to use the justice scale published in the article you cited in your request. You may use this scale in your dissertation and in subsequent revisions, editions, or publications.

My contact information is:

Robert Moorman  
Creighton University  
College of Business Administration  
[REDACTED]

Thank you,  
Rob Moorman

---

Robert H. Moorman  
Professor and Robert Daugherty Chair in Management  
Associate Dean for Graduate Business Programs  
College of Business Administration  
Creighton University  
[REDACTED]

-----Original Message-----  
From: Delsa Bush [mailto:[REDACTED]]  
Sent: Wednesday, May 14, 2008 12:04 PM  
To: Moorman, Robert  
Subject: Permission to use justice scale

Dr. Robert H. Moorman

Approximately one year ago I sent you the following personal e-mail as follows:

Greetings, my name is Delsa Bush and I am a currently a PhD student working on a doctoral proposal at Lynn University in Boca Raton, Florida. The proposal is for a study of the glass ceiling in state and local law enforcement organizations in the State of Florida. Variables or procedural justice, distributive justice, human capital assets, organizational characteristics, and barriers and facilitators to career advancement will be examined.

I have located a copy of a journal article reference your research entitled The relationship between organizational justice and organizational citizenship behavior: Do fairness perceptions influence employee citizenship? I am respectfully asking for your permission to use the instrument that you developed as a measurement of perceived barriers and facilitators to career advancement to be used in the context of my study.

At that time, you responded back to me as follows: "Delsa: Of course you can use the justice scale any way you wish. I have also included a document prepared by Russell Cropanzano summarizing the other justice measures that you might also find useful. Best of Luck with your research."

Unfortunately the Lynn University Institutional Review Board has a requirement that only Lynn University e-mail may be used for correspondence. Therefore I am again asking for your permission to use the scale via the Lynn University e-mail. Additionally I, am requesting permission as follows, which is the desired format.

I would like your permission reprint in my dissertation an excerpt from the following:

Moorman, R. H. (1991). The relationship between organizational justice and organizational citizenship behavior: Do fairness perceptions influence employee citizenship? Journal of Applied Psychology, 76, 845-855.

The requested permission extends to any future revisions and editions of my dissertation, including non-exclusive world rights in all languages, and to the prospective publication of my dissertation by Proquest Information and Learning (Proquest) through its Umi Dissertation Publishing business. Proquest may produce and sell copies of my dissertation on demand and may make my dissertation available for free internet download at my request. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you.

If these arrangements meet with your approval, please respond to the e-mail with your written permission as well as contact information as proof to the Lynn University IRB that I have your approval. If you need further information, please contact me at [REDACTED]. I am sorry for the inconvenience, again thank you for facilitating the completion of my dissertation

Re: permissiona and APA Approval - Windows Internet Explorer

https://pop.student.lynn.edu/exchange/DBush/Inbox/Re:%20permissiona%20and%20APA%20Approval-2.EML?Cmd=open

Reply Reply to all Forward Print X Help

From: Karen Lyness [REDACTED] Sent: Tue 7/15/2008 4:13 PM  
To: Delsa Bush  
Cc:  
Subject: Re: permissiona and APA Approval  
Attachments:

Thanks and good luck with your research!

Karen S. Lyness, Ph.D.  
Professor  
Acting Head, Doctoral Program in  
Industrial & Organizational Psychology  
Department of Psychology, Box B 8-215  
Baruch College, City University of New York  
One Bernard Baruch Way  
New York, NY 10010  
phone: [REDACTED]  
fax: [REDACTED]

----- Original Message -----  
From: Delsa Bush  
To: Karen Lyness  
Sent: Tuesday, July 15, 2008 12:53 PM  
Subject: RE: permissiona and APA Approval

I agree to adhere to the guidelines specified by you in the attached document reference the use of the instruments in in the following citation: Lyness, K.S. & Thompson D.E. (2000). Climbing the corporate ladder: do female and male executives follow the same route? *Journal of Applied Psychology*, 85, 86-101.

RE: permissiona and APA Approval - Windows Internet Explorer

https://pop.student.lynn.edu/exchange/DBush/Drafts/RE:%20permissions%20and%20APA%20Approval.EML?Cmd=reply&Create=0

Send [Icons] Options... Help

To: Karen Lyness

Cc:

Bcc:

Subject: RE: permissiona and APA Approval

Attachments:

Normal Times New Roman 12 [Formatting Icons]

I agree to adhere to the guidelines specified by you in the attached document reference the use of the instruments in in the following citation: Lyness K.S. & Thompson D.E. (2000). Climbing the corporate ladder: do female and male executives follow the same route? Journal of Applied Psychology, 85, 86-101.

From: Karen Lyness [mailto: [Redacted]]  
 Sent: Mon 7/14/2008 9:25 PM  
 To: Delsa Bush  
 Cc: [Redacted]  
 Subject: Re: permissiona and APA Approval  
 Hi Delsa,  
 My response is attached in a PDF file that includes the APA approval document that you sent to me.

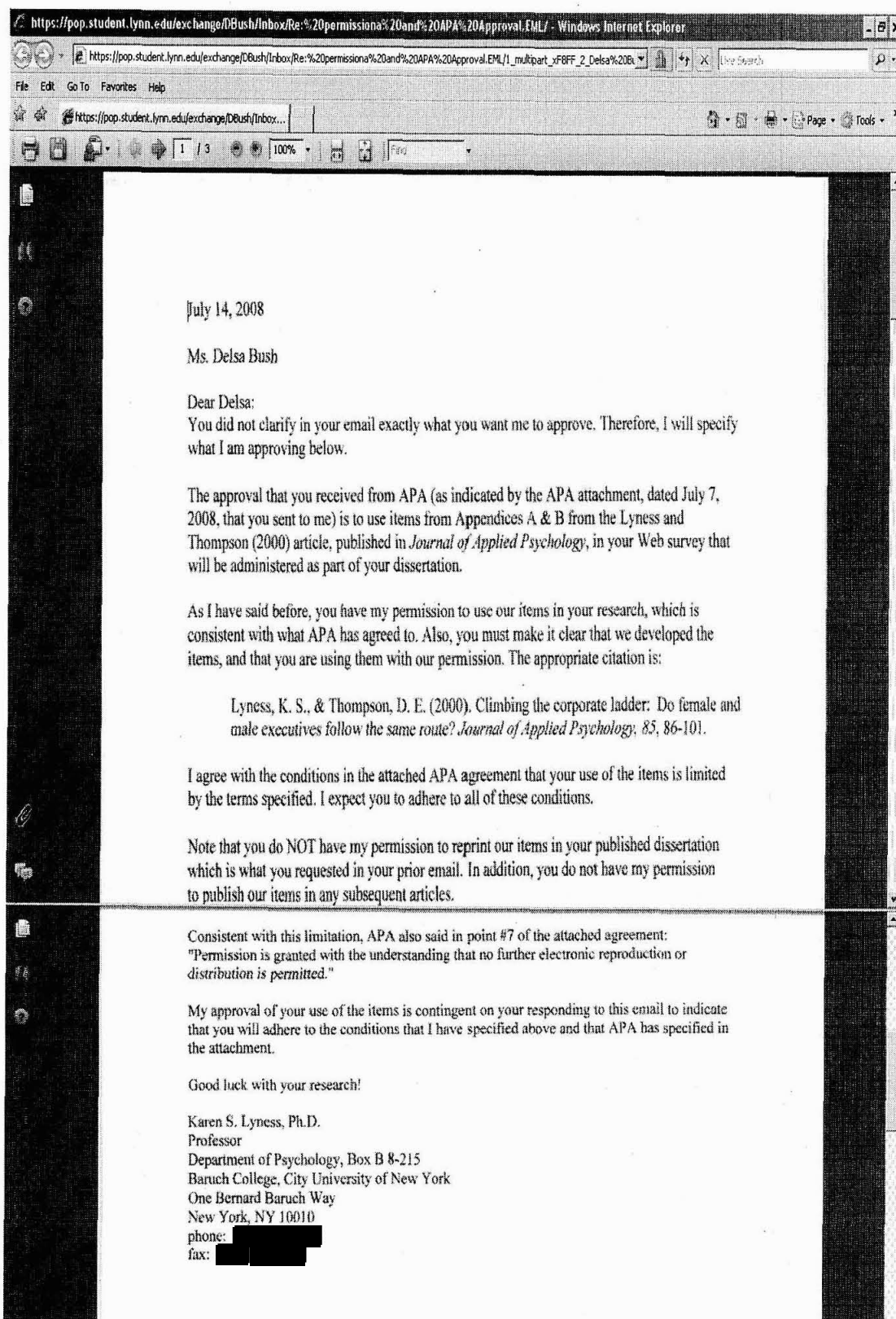
Karen S. Lyness, Ph.D.  
 Professor  
 Acting Head, Doctoral Program in  
 Industrial & Organizational Psychology  
 Department of Psychology, Box B 8-215  
 Baruch College, City University of New York  
 One Bernard Baruch Way  
 New York, NY 10010  
 phone: [Redacted]  
 fax: [Redacted]

----- Original Message -----  
 From: Delsa Bush  
 To: [Redacted]  
 Cc: [Redacted]  
 Sent: Monday, July 14, 2008 4:18 PM  
 Subject: permissiona and APA Approval

can I get your final approval based on the attached APA agreement

Internet 100%

Start [Icons] Delsa Bush - Inbox - ... myLynn: Email - Wi... Re: permissiona an... RE: permissiona an... 12:47 PM





INVOICE NO. N/A  
Federal Tax I.D. [REDACTED]  
Date: July 7, 2008

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Delsa R. Bush  
[REDACTED]

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IN MAKING PAYMENT REFER TO  
THE ABOVE INVOICE NUMBER

Request is for the following APA-copyrighted material: Appendix A (adapted), page 101, and Appendix B (adapted), page 101, from JOURNAL OF APPLIED PSYCHOLOGY, 2000, 85, 86-101

For the following use: (Print and Electronic\*) Doctoral dissertation research, including online data collection from approximately 250 participants for a period of approximately two months [start date to be determined upon final approval from the Lynn University IRB]

File: Bush, Delsa R. (author)

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[Redacted Signature]

Date

7/11/08

PERMISSION GRANTED ON ABOVE TERMS:

[Redacted Signature]

for the American Psychological Association

July 7, 2008

Date

\_\_\_\_\_ I wish to cancel my request for permission at this time.





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20002-4242

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Fax: 202-336-5633

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---

#### For Use of APA Material

**Date:**

**Your contact information:**

Name: Delsa R. Bush

Organization name: Lynn University

Department: Ph.D

Complete postal address: 3601 North Military Trail, Boca Raton, Florida 33431-5598

Country: USA

Office phone: [REDACTED]

Fax number: [REDACTED]

Email: [REDACTED]

Your reference code number (if required):

**1. The APA material you want to use:**

**Complete citation** (Ex: URL, Title, Source, Author, Publication year, Pagination, etc.)

Lyness, K.S. & Thompson, D. E. (Feb1, 2000). Climbing the corporate ladder: Do female and male executives follow the same route? *Journal of Applied Psychology*, 85 (1), 86-101.

**2. Do you want to use:**

☐ The entire material, unedited?

☐ Portions of the material? Please give APA page number(s) \_\_\_\_

☐ A specific section? Please give APA page number(s) \_\_\_\_

XXX ☐ Scale or test material? Please give APA page number \_101, Appendix A and B items and scales measuring perceived barriers to advancement and items and scales measuring perceived facilitators to advancement.

☐ A photo? Please give APA page number \_\_\_\_

☐ Appendix material? Please give APA page number \_\_\_\_

☐ Other / Please specify:

**3. What media do you want to use the APA material in?**

☐ Print only

☐ Electronic / Please give details

☐ Both print and electronic / Please give details: X, As part of dissertation and to conduct an online survey for dissertation research

☐ Other / Please give details:

**4. The material will be used in:**

☐ Journal

☐ Book

☐ Newsletter

☐ Magazine

☐ Directory

☐ Newspaper

☐ Other / Please specify:

Publisher:

Estimated publication date:

Estimated print run:

☐ Presentation or Seminar

Title:

Date:

Number of copies needed:

Is the presenter the author of the APA material? YES NO

Is the presentation or seminar continuing education? YES NO

Is there a fee for attendees? YES NO

☐ Dissertation or Thesis Publication name: X, Perceived Justice and Barriers and Facilitators to career advancement in state and local organizations in the State of Florida

☐ Email distribution X

☐ Listserv

Please give details: Material will be used as part of an online survey via SurveyMonkey.com using a restricted internet site. Survey responses are anonymous and e-mail addresses are kept confidential. Material will be printed in doctoral dissertation

☐ Secure Intranet site                      ☐ Public Internet site                      ☐ Restricted Internet site X

Please give URL and other details:

<input type="checkbox"/> Classroom use (Print)	<input type="checkbox"/> Classroom use (Electronic reserve)
Institution name:	Institution name:
Course name:	Course name:
Course start date:	Course start date:

<input type="checkbox"/> 1 semester (6 months)	<input type="checkbox"/> Other / Please specify:
<input type="checkbox"/> 2 semesters (12 months)	
Instructor's name:	
Number of students enrolled:	

☐ Online CE course

    Organization:

    Course name:

    Course start date:

☐ 6 months                      ☐ 12 months                      ☐ Other / Please specify:

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☐ Other / Please give details:

#### 5. Any additional information to tell us:

The scales will be reprinted as part of a 72 item online survey which is strictly for doctoral research. Copies of the scales will also be reprinted as part of an Appendix within the written dissertation. This request extends to future revisions and editions of my dissertation and to the prospective publication of my dissertation by Proquest Information and Learning (Proquest) through its Umi Dissertation publishing business. Proquest may produce and sell copies of my dissertation on demand and may make my dissertation available for free internet download at my request. These items will in no way restrict republications of the material in any form by you or by others authorized by you.

**Appendix G**  
**E-mail Invitation**

Dear Law Enforcement Officer:

I am a doctoral student at Lynn University in Boca Raton, Florida. I am in the process of conducting my dissertation which examines the relationships among human capital assets, organizational characteristics, demographic characteristics, procedural justice, distributive justice, and perceived barriers and facilitators to career advancement in state and local law enforcement organizations in the State of Florida.

This e-mail invites you to participate in an online survey. You must be at least 19 years of age and be employed as a full time law enforcement officer in a local or state organization with the rank of sergeant and higher in the State of Florida.

Please click on the below link or copy and paste it into your browser to enter a web page, which describes the survey and provides information about your consent to participate. This is followed by a link to the online survey. Please do not report any indentifying information. It should take approximately 10-15 minutes to complete the survey.

[http://www.surveymonkey.com/s.aspx?sm=eeja2D\\_2by26OQP0vBBMkxVA\\_3d\\_3d](http://www.surveymonkey.com/s.aspx?sm=eeja2D_2by26OQP0vBBMkxVA_3d_3d)

Your participation would be greatly appreciated.

Delsa R. Bush  
Doctoral Student, Lynn University



## **APPENDIX H**

### **Approval from IRB**



Lynn University

**Principal Investigator:** Delsa R. Bush

**Project Title:** Perceived Justice and Barriers and Facilitators to the Attainment of Leadership Positions in State and Local Law Enforcement Organizations in the State of Florida

**IRB Project Number:** 2008-013 Request for Expedited Review of Application and Research Protocol for a New Project

**IRB Action by the IRB Chair or Another Member or Members Designed by the Chair:**

Expedited Review of Application and Research Protocol and Request for Expedited Review (FORM 3): Approved ☒ Approved; w/provision(s) ☐

COMMENTS:

Consent Required: No ☐ Yes ☒ Not Applicable ☐ Written ☒ Signed ☐

Consent forms must bear the research protocol expiration date of 07/16/09

Application to Continue/Renew is due:

- 1) For an Expedited IRB Review, one month prior to the due date for renewal ☒
- 2) Other:

Name of IRB Chair: Farideh Farazmand

Signature of IRB Chair

A black rectangular box redacting the signature of the IRB Chair.

Date: 07/16/08

Cc. Dr. Scialli

Institutional Review Board for the Protection of Human Subjects  
Lynn University  
3601 N. Military Trail Boca Raton, Florida 33431

845P14 5329  
06/01/09 39800

HP Group